# Jaguar IV Series
# User Manual

http://www.GCCworld.com

V.3 2011 Jul

**NOTICE**

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V.3 2011 Jul

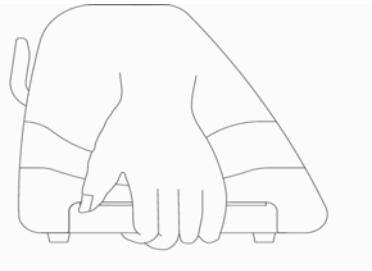
# Important Information

Thank you for purchasing the ***GCC Jaguar IV Cutting Plotter.***
Before you use the cutting plotter, please make sure that you have read the safety precautions and instructions below.

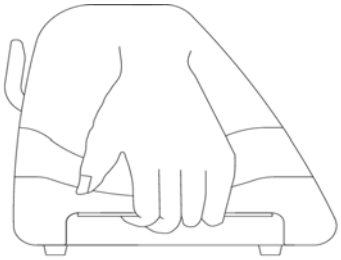
Caution

## SAFETY PRECAUTIONS!

- For safety concern, please always hold the cutter firmly **from the bottom** while moving it. Do not move the cutter by clasping the depression area on both sides.



O (Correct)



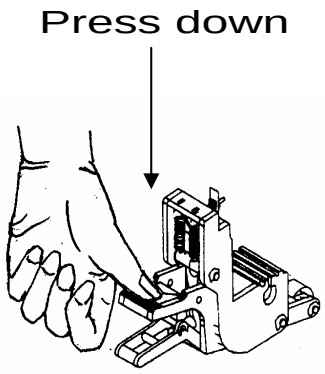
X (Incorrect)

- Do not shake or drop the blade holder, a blade tip can fly out.
- During an operation, do not touch any of the moving parts of this machine (such as the carriage). Also be careful to make sure that clothing and hair do not get caught.
- Always connect the power cable to a grounded outlet.
- Always use the accessory power cable which is provided. Do not wire the power cable so that it becomes bent or caught between objects.
- Do not connect the power cable to branching outlet to which other machines are also connected, or use an extension cable. There is danger of overheating and of mis-operation of the machine.
- Keep the tools away from children where they can reach.
- Always put the pinch rollers within the white marks.

# Warning

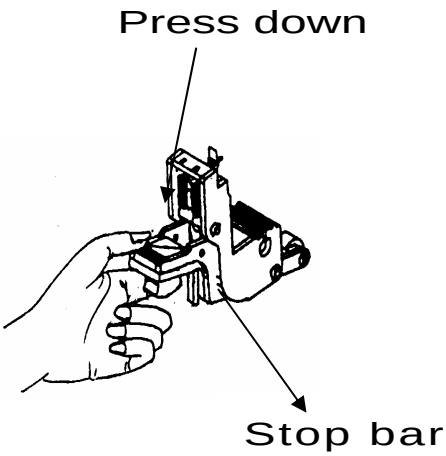
**Never press the top release grip and pull the bottom release grip at the same time as the pictures shown below:**

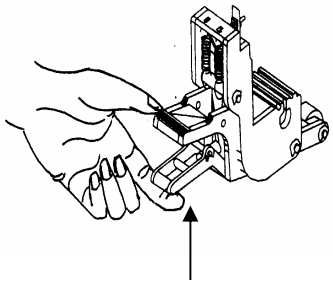
**O (CORRECT)**




**DISABLE**

**X (INCORRECT)**




**ENABLE**

**Note:**

**In case the grips clipped together due to your wrong operation, please use a tweezers to pull out the stop bar when pressing down the top release grip. Keep the stop bar outside then release the grips as the right figure.**

# Table of Contents

Important Information

**1. General Information**

1.1 Introduction 1-1
1.2 Package Items 1-1
1.3 Product Features 1-2
1.4 Appearance of Jaguar IV
1.4.1 The Front View 1-3
1.4.2 The Back View 1-3
1.4.3 The Whole View 1-4
1.4.4 The Left-hand Side 1-4
1.4.5 The Right-hand Side 1-5

**2. Installation**

2.1 Precaution 2-1
2.2 Stand & Flexible Media Support System 2-2
2.3 Desktop Flexible Media Support System 2-6
2.4 Blade Installation 2-8
2.5 Cable Connections
2.5.1 USB Interface 2-10
2.5.2 Parallel Interface 2-13
2.5.3 RS-232 Interface 2-13
2.5.4 Data Transmitting 2-13

**3. The Control Panel**

3.1 The LCD Panel 3-1
3.2 Menu in On-line Mode 3-2
3.3 Menu in Off-line Mode 3-3
3.4 Menu Items 3-4

**4. Operation**

4.1 Media Loading
4.1.1 Loading the Sheet Media 4-1
4.1.2 Loading the Roll Media 4-3
4.2 Tracking Performance 4-5
4.3 Cutting Force and Offset Adjustment 4-6
4.4 How to Cut 3mm Letter 4-7
4.5 How to Make A Long Plot 4-7
4.6 When Completing the Cutting Job 4-8
4.7 Jaguar IV Print Driver setting 4-9
4.7.1 Option Page 4-9
4.7.2 Paper Page 4-11

**5. Accu-Aligning System**

5.1 Introduction 5-1
5.2 Calibrating the System
5.2.1 Media Calibration 5-2
5.2.2 AAS Calibration 5-2
5.2.3 AAS II on Jaguar IV 5-3

5.3 Printer Test 5-4
5.4 Contour Cutting 5-6
5.5 Tips for AAS 5-8

**6. Maintenance**

6.1 Cleaning the cutting Plotter 6-1
6.2 Cleaning the Grid Drum 6-2
6.3 Cleaning the Pinch Rollers 6-2

**7. Trouble Shooting**

7.1 Non-Operational Problems 7-1
7.2 Operational Problems 7-2
7.3 Communication Problems 7-3
7.4 Software Problems 7-4
7.5 Cutting Quality Problem 7-5
7.6 USB connection Problems 7-6

**Appendix**

A-1 Jaguar IV Specification A-1
A-2 Blade Specification A-2
A-3 CorelDRAW Plug-In Instruction A-3
A-4 SignPal 8.5 Instruction A-4
A-5 EasySIGN Instruction A-5
A-6 GreatCut Instruction A-6
A-7 Illustrator Instruction A-7

# 1. General Information

## 1.1 Introduction

Jaguar IV series cutting plotters have been designed to produce computer-generated images or perform contour cutting on sheets or rolls of vinyl media.

This manual covers the following models of Jaguar IV series cutting plotters:

| | |
|---|---|
| • J4-61 | for media width: 50mm(1.97”) ~ 770mm(30.3”) |
| • J4-101S | for media width: 50mm(1.97”) ~ 1270mm(50”) |
| • J4-132S | for media width: 50mm(1.97”) ~ 1594mm(62.7”) |
| • J4-183S | for media width: 300mm(11.8”) ~ 1900mm(74.8”) |

## 1.2 Package Items

The package of the Jaguar IV model contents the items listed below, please check carefully. If you find any item missing, please consult your local dealer for further assistance.

<table>
<tr><th>Standard Item</th><th>Quantity</th></tr>
<tr><td>1. Cutting Plotter</td><td>1</td></tr>
<tr><td>2. Stand Set ( for J4-101S/132S/183S only )(Optional for J4-61)<br>● 2 piece of T-shape stand<br>● 1 piece of stand beam<br>● 18 pieces of M6 screws<br>● 1 piece of M5 L-shape hexagon screw driver<br>● 1 piece of Installation Guide for Stand Set</td><td>1</td></tr>
<tr><td>3. Flexible Media Support System Package
<table>
<tr><th>Items</th><th>183S/132S/101S</th><th>61</th></tr>
<tr><td>1 set of Roll Media Flange (2 pieces)</td><td>V</td><td>V</td></tr>
<tr><td>1 set of Roll Holder (2 pieces)</td><td>V</td><td>V</td></tr>
<tr><td>1 set of Roll Holder Guide Bushes (4 pieces)</td><td>V</td><td>V</td></tr>
<tr><td>1 set of Roll Holder Support (2 pieces)</td><td>V</td><td>V</td></tr>
<tr><td>1 piece of M6 L-shape hexagon screw driver</td><td>V</td><td>V</td></tr>
<tr><td>1 piece of Installation Guide for Roll Holder</td><td></td><td>V</td></tr>
<tr><td>1 piece of M5 L-shape hexagon screw driver</td><td></td><td>V</td></tr>
<tr><td>1 set of Desktop Support Brackets (2 pieces)</td><td></td><td>V</td></tr>
<tr><td>4 pieces of Plastic Foot</td><td></td><td>V</td></tr>
<tr><td>4 pieces of M4 screws</td><td></td><td>V</td></tr>
<tr><td>12 pieces of M6 screws</td><td></td><td>V</td></tr>
<tr><td>1 piece of M4 L-shape hexagon screw driver</td><td></td><td>V</td></tr>
</table></td><td>1</td></tr>
</table>

| | |
|---|---|
| **4. Accessories**<br>● 1 piece of User's Compact Disk<br>● 1 piece of AC power Cord<br>● 1 piece of data cable (RS-232C)<br>● 1 piece of data cable (Print cable)<br>● 1 piece of data cable (USB cable)<br>● 1 set of Blade Holder Assembly (Installed in tool carriage of the cutting plotter)<br>● 1 piece of Blade (Installed in Blade Holder)<br>● 1 piece of Safe Blade<br>● 1 piece of Cutting Pad for Vinyl cutting<br>● 1 piece of Tweezers<br>● 1 piece of Promise Card | **1** |

## 1.3 Product Features

The following are the main features of the Jaguar IV series cutting plotters:

- Tri-port connectivity provides you with greater flexibility
- Up to 600-gram cutting force
- Up to 60-inch/per second cutting speed
- Guaranty 10-meter tracking
- User friendly, multi-language control panel
- Ingenious media basket (optional item)
- Enhanced Accu-Aligning System for automatic contour cutting

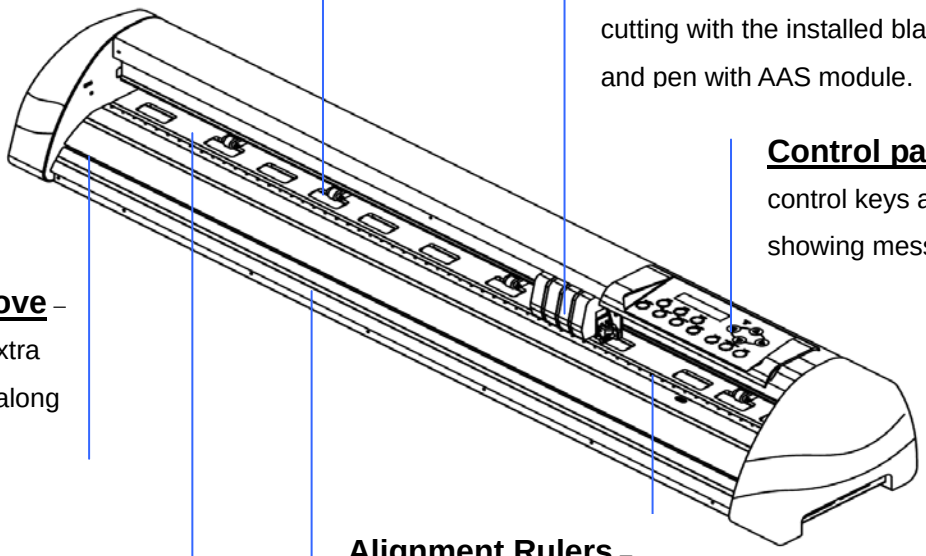
## 1.4 Appearance of Jaguar IV

### 1.4.1 The Front View (Figure 1-1)

**Grid Drums** – move the media back and forth during operation.

**Tool Carriage** – performs the cutting with the installed blade and pen with AAS module.

**Control panel** – consists of 14 control keys and 1 LED and 1 LCM showing messages and menus.



**Slicer Groove** – slice off the extra media easily along this groove.

**Platen** – provides the surface for holding and supporting media while performing cutting.

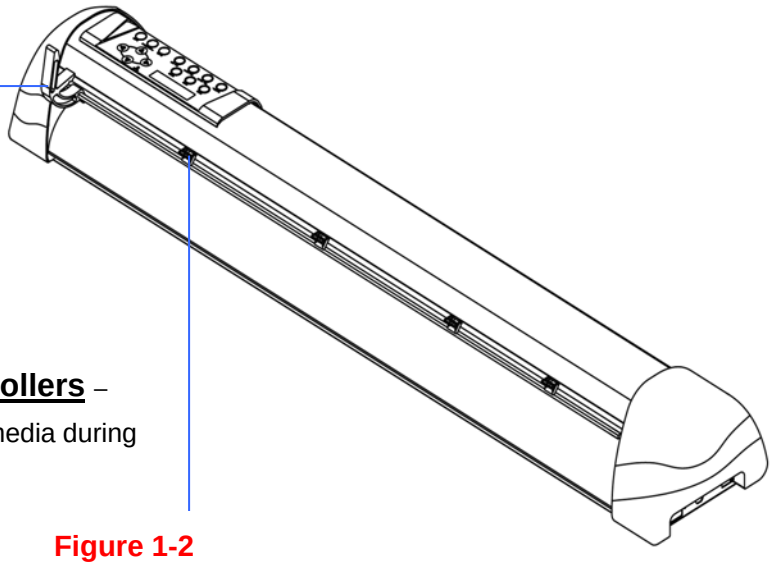
**Alignment Rulers** – media can be aligned with the clear guide line marks.

**Cutting Pad** – provides the protection of blade when the blade is cutting.

**Figure 1-1**

### 1.4.2 The Back View (Figure 1-2)

**Lever** – raises or lowers the pinch rollers.



**Pinch Rollers** – hold the media during cutting.

**Figure 1-2**

### 1.4.3 The Whole View of Jaguar IV (Figure 1-3)

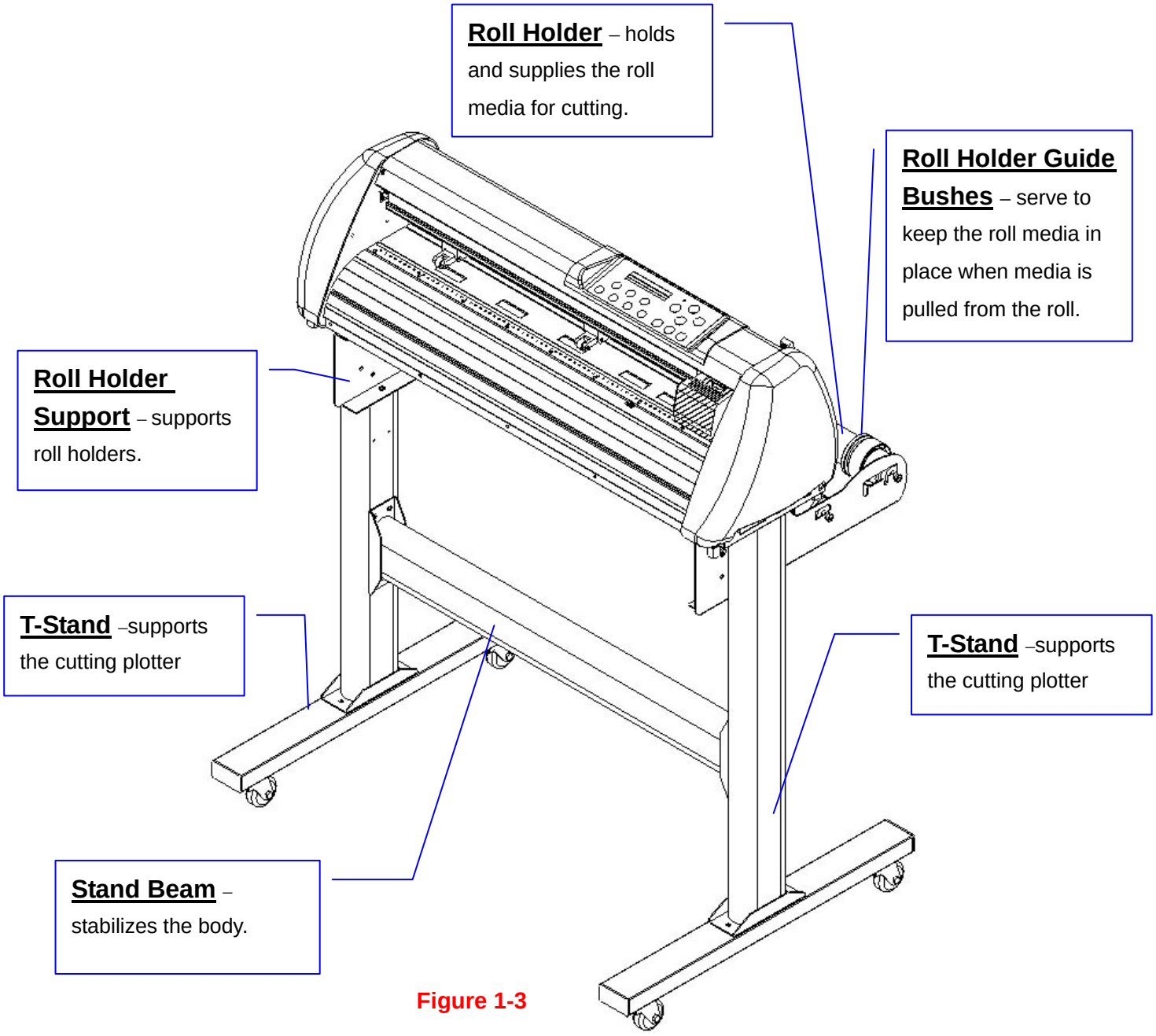



**Figure 1-3**

1.4 4 The Left-hand Side (Figure 1-4)

Power Switch – On when switches to [I]; Off to [O]

Fuse – 3 Amp.

AC Power Connector – used to insert the AC power cord.

**Figure 1-4**

1.4.5 The Right-hand Side (Figure 1-5)

Serial Interface Connector (RS232C) – used to connect the cutting plotter to a computer through a serial interface cable.

USB Connector – used to connect the cutting plotter to a computer through a USB cable.

Parallel Interface Connector – used to connect the cutting plotter to a computer through a parallel interface cable.

**Figure 1-5**

# 2. Installation

## 2.1 Precaution

Please read below information carefully before you start installation.

**Notice 1**

- Make sure the power switch is off before installing the cutting plotter.
- Carefully handle the cutter to prevent any injuries.

**Notice 2 Choosing a proper place before setting up the cutting plotter**

Before installing your cutting plotter, select a suitable location, which meets the following conditions.

- The machine can be approached easily from any direction.
- Keep enough space for the machine, accessories and supplies.
- Keep the working area stable, avoiding sever vibration.
- Keep the temperature between ***15 and 30℃ (60-86°F)*** in the workshop.
- The relative humidity of the working environment should be between **25% to 75%**.
- Protecting the machine from dust and strong air current.
- Preventing the machine from direct sunlight or extremely bright lighting.

**Notice 3 Connecting the Power Supply**

Check the plug of the power cord to see if it matches with the wall outlet. If not, please contact your dealer.

- Insert the plug (male) into a grounded power outlet.
- Insert the other end (female) of power cord into the AC connector of cutting plotter.

## 2.2 Stand & Flexible Media Support System (for J4-101S/132S/183S)

**Step 1**

Please examine supplied items in the accessory box of stand carton:

- 2 piece of T-shape stand
- 1 piece of stand beam
- 18 pieces of M6 screws
- 1 piece of M5 L-shape hexagon screw driver
- 1 piece of Installation Guide for Stand Set

**Step 2**

- Remove the plotter body and the accessories from the shipped carton.
- Place the stand beam upright on the T-stand and follow the number ❶❷ to assemble.

(See Figure 2-1 & 2-2)

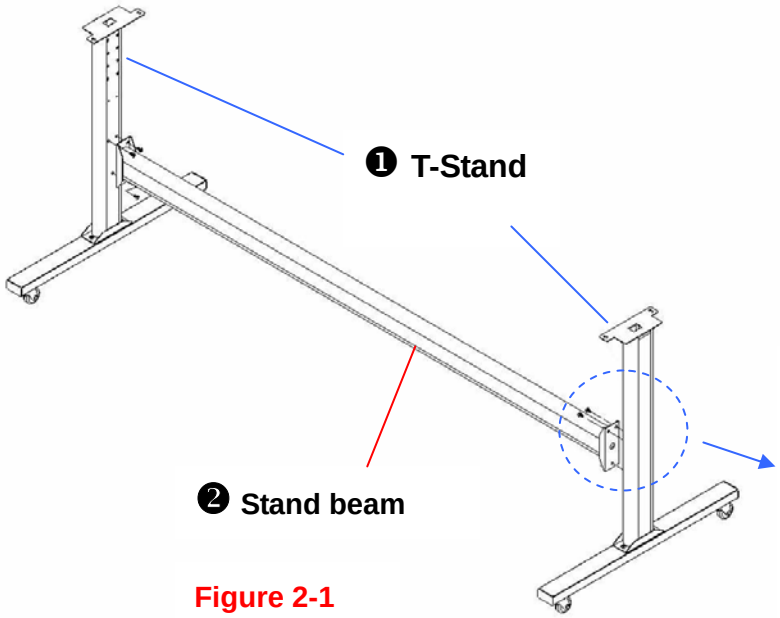



Figure 2-1

Figure 2-2

**Step 3**

Position the stand beam perpendicularly to part ❶and put the screws into the holes and tighten them as Figure 2-2. Then the complete picture of stand will be like Figure 2-1.

**Step 4**

Remove the cutting plotter from the carton. Position your stand under the plotter, and then insert the screws into the holes on plotter's bottom and tighten them up as shown in Figure 2-3.

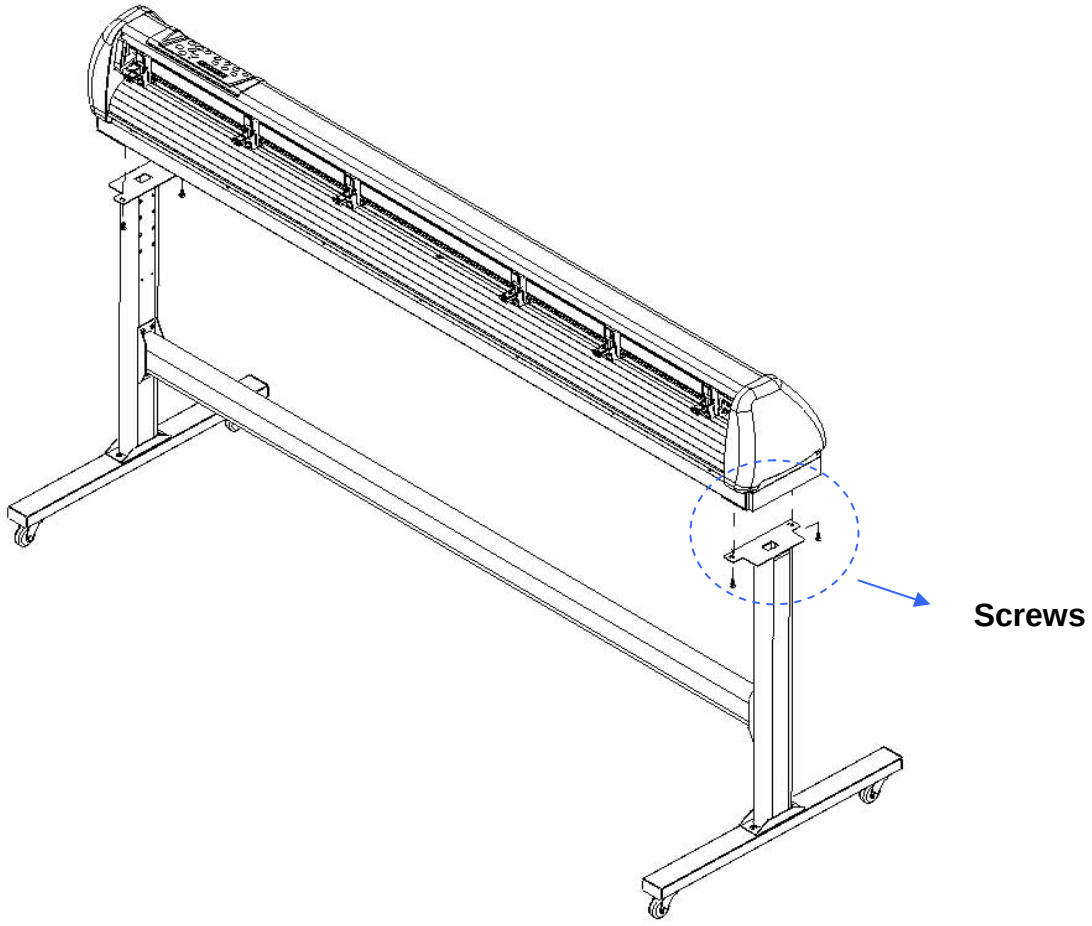



**Figure 2-3**

**Step 5**

Insert the roll holder support with the screws into the holes of the stand, and then tighten them up as shown in Figure 2-4. You could decide roll holder support's position by inserting into different holes.

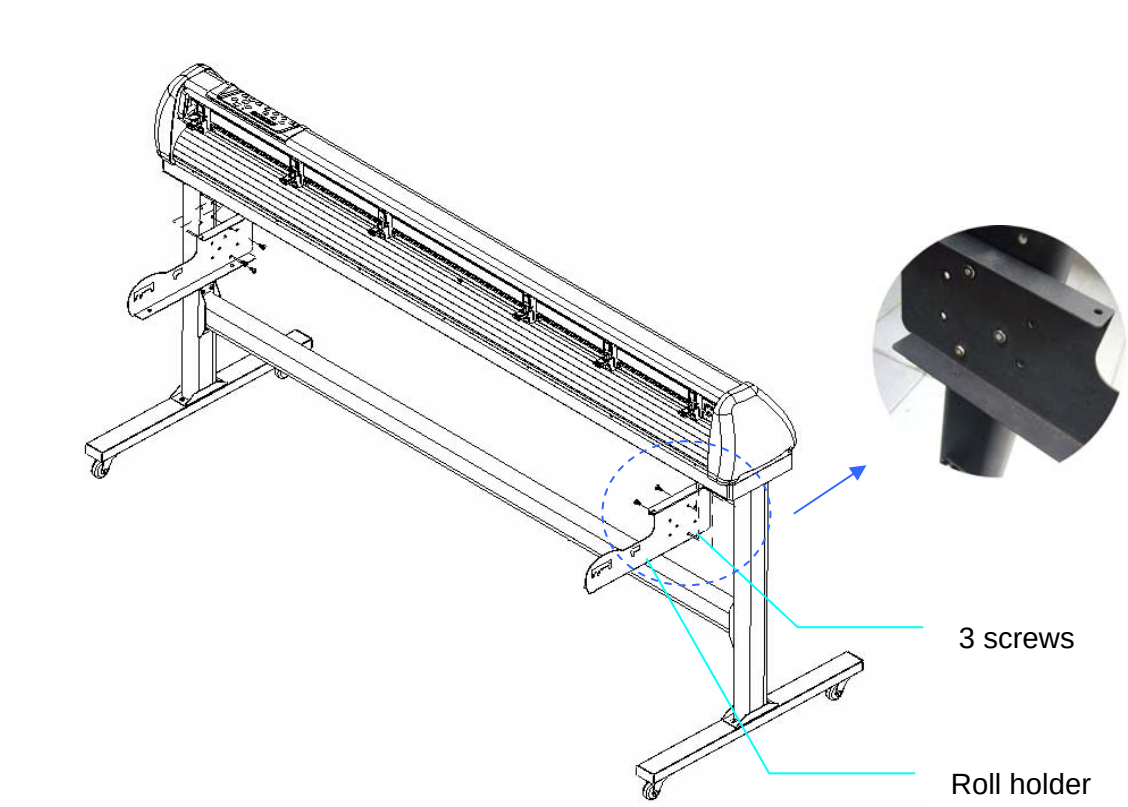



**Figure 2-4**

**Step 6**

Place two roll holders into the holes in the roll holder support. (Figure 2-5)

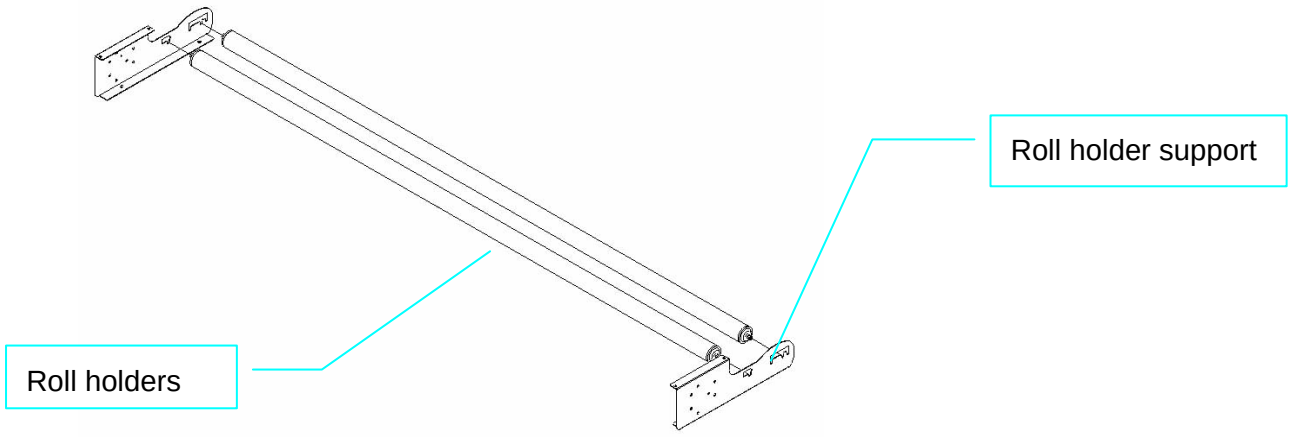



**Figure 2-5**

**Step 7**

Lastly, the complete picture will be shown like below. (Figure 2-6)

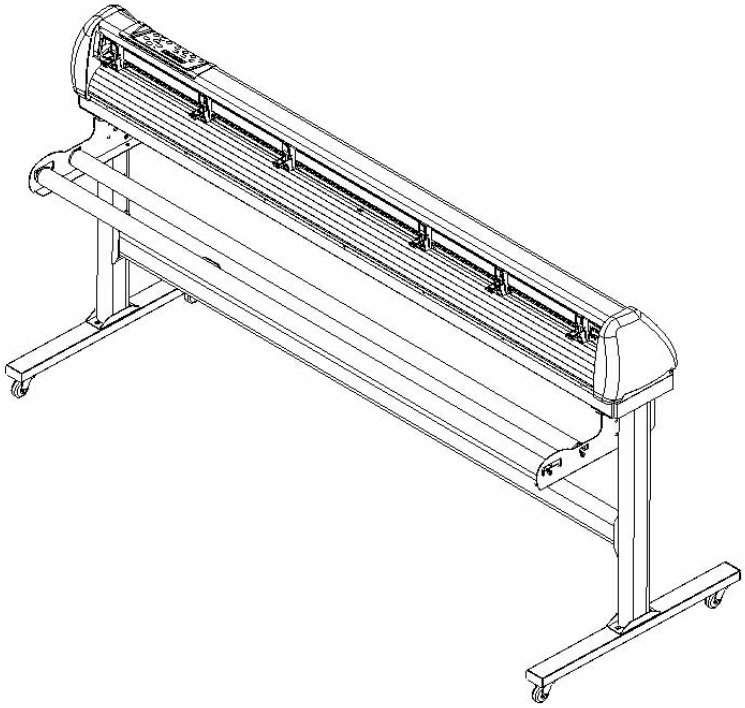


**Figure 2-6**

## 2.3 Desktop Flexible Media Support System (For J4-61 only)

**Step 1**

Please examine the following items in stand carton's accessory box:

- 1 set of Roll Media Flange (2 pieces)
- 1 set of Roll Holder (2 pieces)
- 1 set of Roll Holder Guide Bushes (4 pieces)
- 1 set of Roll Holder Support (2 pieces)
- 1 set of Desktop Support Bracket (2 pieces)
- 4 pieces of Plastic Foot
- 4 pieces of M4 screws
- 12 pieces of M6 screws
- 1 piece of M4 L-shape hexagon screw driver
- 1 piece of M5 L-shape hexagon screw driver
- 1 piece of M6 L-shape hexagon screw driver (for adjusting the screws of Roll Holders)
- 1 piece of Installation Guide for Roll Holder

**Step 2**

Put the 4 Plastic Foot under the Roll Holder Support and insert the M4 screw into the hole of Plastic Foot and tighten them with the M4 L-shape screw driver. (Figure 2-7)

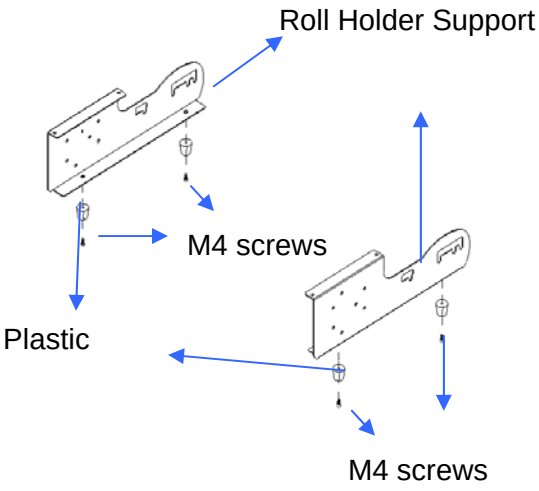
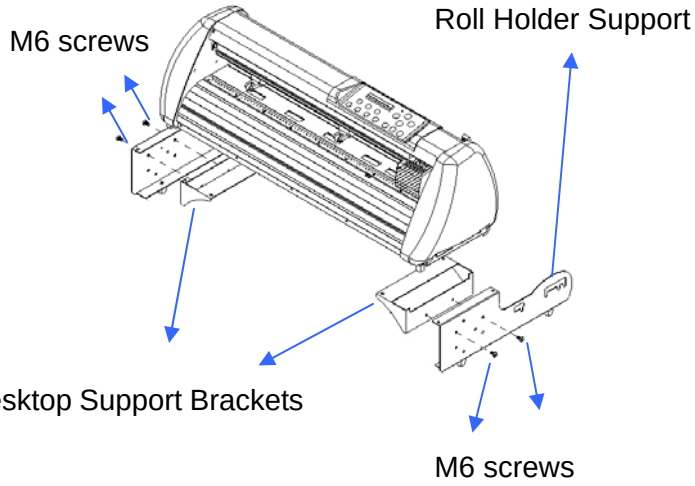



Figure 2-7

Figure 2-8



**Step 3** Position the Desktop Support Brackets beside the Roll Holder Support and insert M6 screws into the Roll Holder Support and tighten them with M6 L-shape screw driver. (Refer to Figure 2-8 at the left).

**Step 4**

Put the bottom of machine in lateral, and position the Roll Holder Assembly beside the bottom of the machine. Then, insert the M6 screws into the holes of Roll Holder support assembly and tighten them with M6 L-shape screwdriver. Like Figure 2-9.

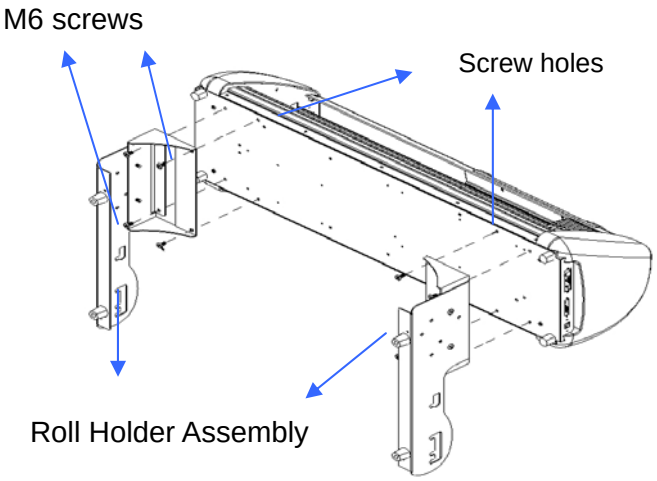



**Figure 2-9**

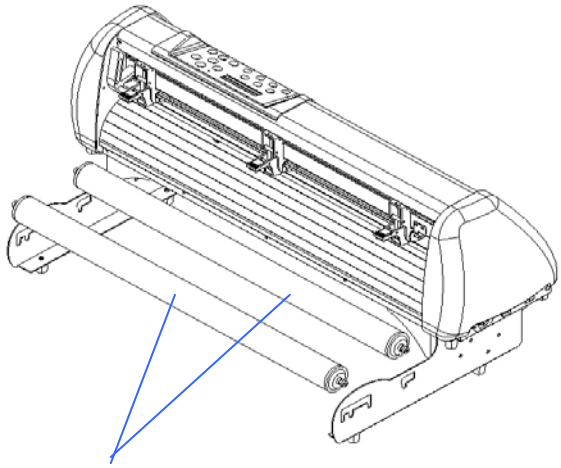



**Figure 2-10**

**Step 5**

Place the two roll holders into the holes of Roll Holder Support (Figure 2-10).

**Step 6**

The complete Desktop Media Support System will be shown as in Figure 2-11.

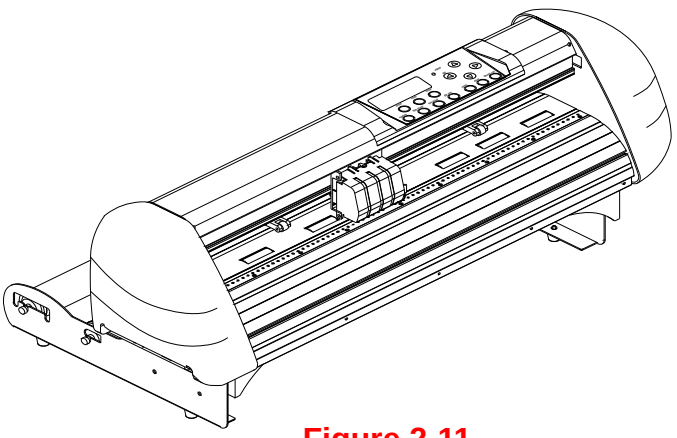


**Figure 2-11**

## 2.4 Blade Installation

Figure 2-12 is the illustrator of the blade holder. Insert a blade into the bottom of the blade holder and remove the blade by pushing the pin. Make sure that your fingers are away from the blade tip.

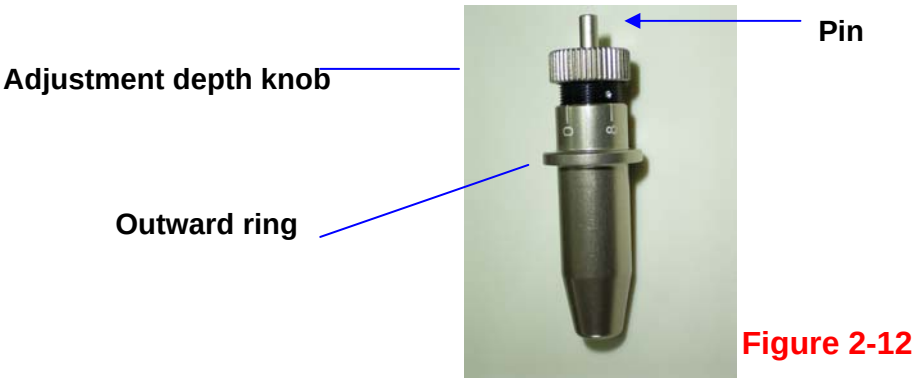



Figure 2-12

**Step 1**

Install blade (Figure 2-13).

Figure 2-13

Figure 2-14

**Step 2**

Push the blade to the bottom of the blade holder. (Figure 2-14).

**Step 3**

Adjust the blade tip to suitable length by screwing "Blade tip adjustment screw" clockwise or count-clockwise. (Figure 2-15).

Figure 2-15

**Tips:**

"The proper length" means the blade's length is adjusted 0.1mm more than film's thickness. That is, if the thickness of film is 0.5mm, then blade's length is properly adjusted 0.6mm and it can completely cut through the film layer yet avoid penetrating the backing.

**Step 4**

Insert the blade holder into tool carriage. Please note the outward ring of the holder must put into the grooves of carriage firmly (see Figure 2-16), then fasten the case (Figure 2-17).

Figure 2-16

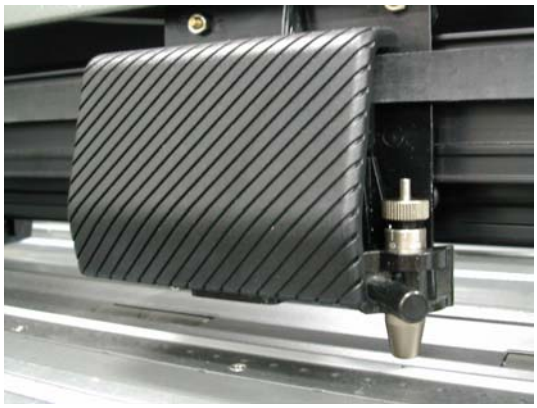


Figure 2-17

**Step 5** Use the reversing steps to remove the blade holder.

**Step 6** **Eject the blade. Push "Blade eject pin" to eject blade** when the blade needs to be replaced.

**Caution**

The blade will lose its sharpness after a period of usage, the cutting quality might be affected. By increasing the cutting force, it might do the trick. However, once the blade is worn out and no longer provides a reliable cutting, you should replace a new one. The blade is consumable and must be replaced as often as necessary to maintain the cutting quality. The quality of the blade deeply affects cutting quality. So be sure to use a high quality blade to ensure good cutting results.

## 2.5 Cable Connection

The cutting plotter communicates with a computer through a **USB (Universal Serial Bus), Parallel port (Centronics), or** a **Serial port (RS-232C)**. This chapter shows you how to connect the cutting plotter to a host computer and how to set up the computer/cutting plotter interconnection.

---

!! **Notice:** When USB connection is enabled, both parallel port and serial port will be disabled automatically.

---

Figure 2-18

### 2.5.1 USB Interface

Jaguar IV build-in USB interface are based on the Universal Serial Bus Specifications Revision 1.1. (Operation system of Windows 95, Windows NT don't support USB ).

- USB driver installation

**Caution!!**

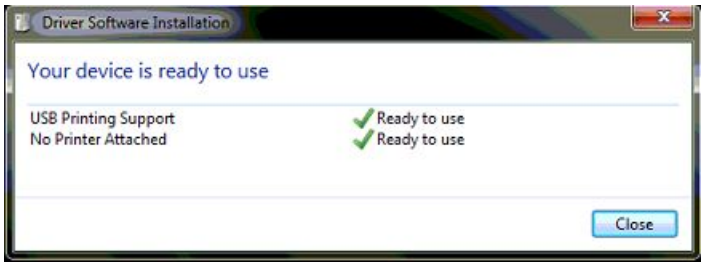
✓ **If you are using Windows 2000 / XP / Vista / 7 as your operating system, make sure you log in using the "Administrator" account.**

Use the USB One-click Installation for quick driver installation. Follow the simple steps below for driver setup.

**Step 1:**

**Connecting your GCC cutter**

1. Turn on the machine.
2. Connect the USB connector to the machine and then USB driver will installed automatically. It will take a few minutes to find the device. Please DO NOT disconnect the USB cable until the installation has completed.
3. You can double click the USB icon on the taskbar to make sure the USB device is detected.

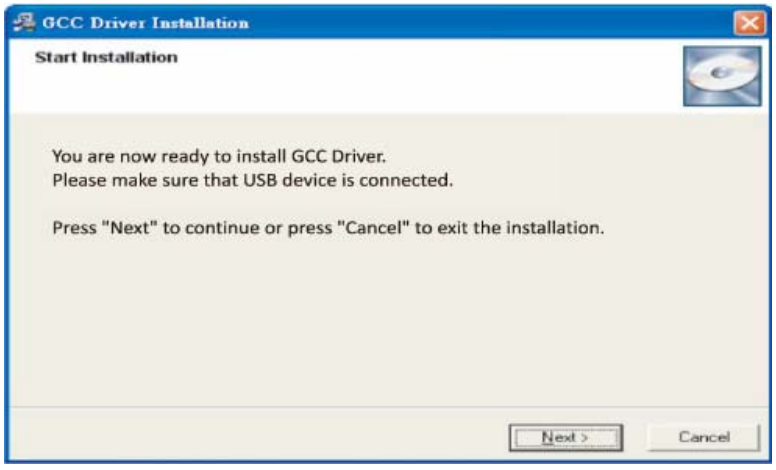


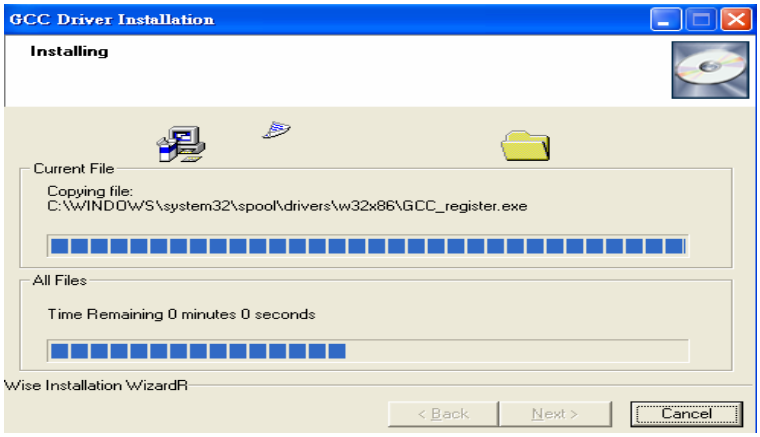

**Step 2: Installing the software**

(1) Put the installation CD into your CD-ROM. **Please make sure that the USB device is connected before you start the driver installation.**

(2) Choose the model you want to install from the driver list and click on either the 32 bit or 64 bit driver installation depending on the operating system installed on your computer to start the installation. (The Expert Pro model is used as an illustration in the following steps.)

(3) Click “Next” to start the driver installation.



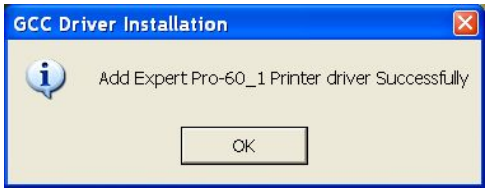



(4) The installation will take a few minutes to complete and you will see a message below and click on “OK” upon completion. Enjoy your GCC cutter!

Note:

(1) If the driver is being installed for a second time, the user will be prompted as to whether a second copy of the driver installation is required.

(2) If the user selects yes, a second copy of the driver will be installed.




### 2.5.2 Parallel Interface

- Connecting to the Parallel (Centronics) Port

1. Connect a parallel cable to the cutting plotter and the host computer
2. Set up the output port **LPT1** or **LPT2** from your software package
3. Send the data to your cutting plotter directly. Or, use DOS commands like **TYPE** or **PRINT** to output data.

**Caution!! Please turn off the plotter before plugging the print cable.**

### 2.5.3 RS-232 Interface

- Connecting to the RS-232 (Serial) Port

1. For IBM PC, PS/2 users or compatibles, connect the RS-232C cable to the serial connector of the assigned serial port (COM1 or COM2) of your host computer.
2. Set up the communication parameters (Baud Rate and Data Bits/Parity) to match the setting of software package, refer to chapter 3 – “Misc” key description.

**Caution!! Please turn off the plotter before plugging the RS-232C cable.**

### 2.5.4 Data Transmitting

There are two options to transmit the data from the computer to the cutting plotter:

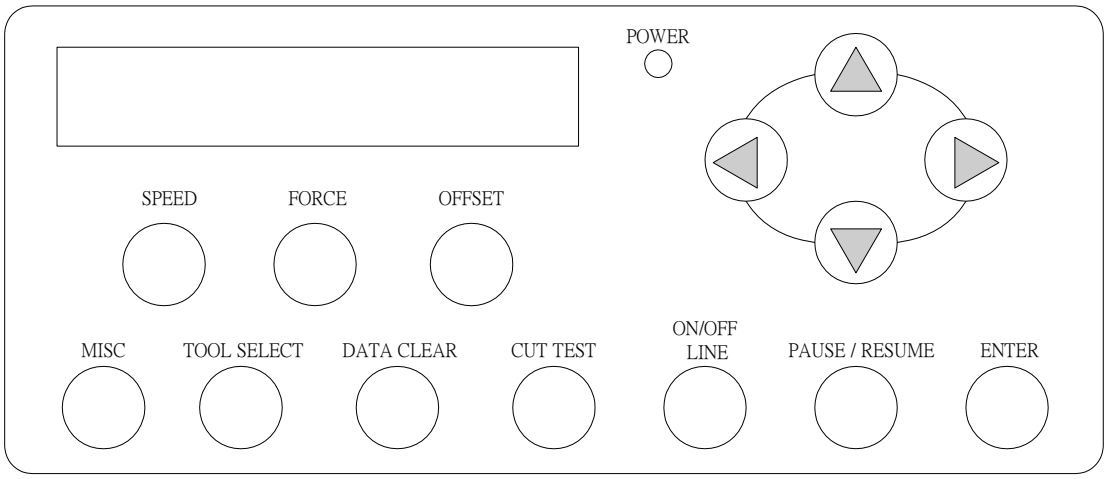
**Option 1:** With proper interface settings, the data can be transmitted from your application software package to the cutting plotters directly.

**Option 2:** Most cutting software packages are able to emulate **HP-GL** or **HP-GL/2** commands. As long as the file is **HP-GL** or **HP-GL/2** format, the cutting plotter can output the data precisely.

# 3. The Control Panel

This chapter describes the button operations with the LCM menu flowcharts of Jaguar IV. When the cutting plotter is ready for use as described in Chapter 1 & 2, all functions are under default parameters.

## 3.1 The LCD Panel



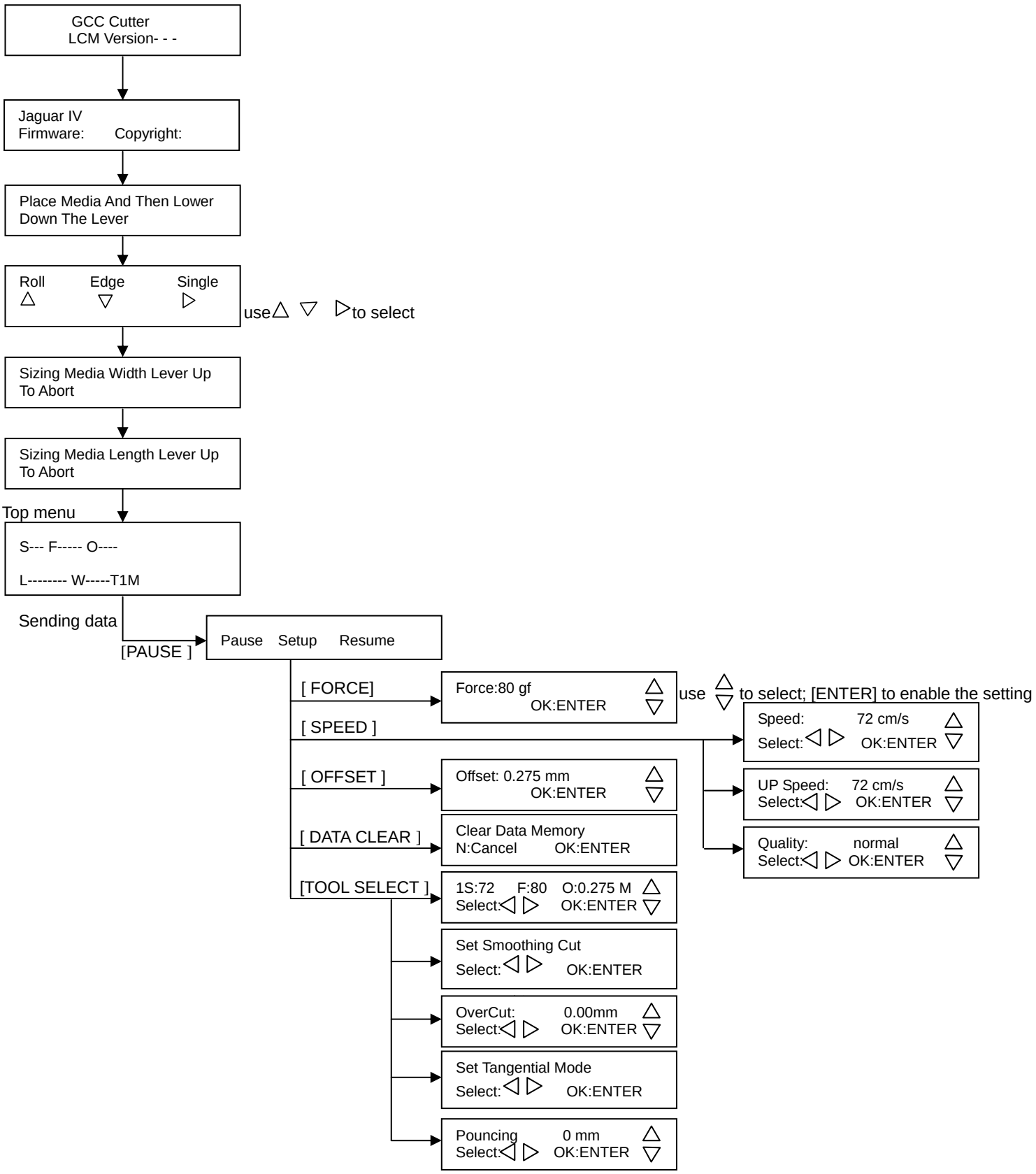

< LCD Control Panel on Jaguar IV series >

| Key | Function |
|---|---|
| LCD Screen | To display functions and error messages. |
| Power LED | To indicate the power status ( light up: power on; light off: power off ) |
| 4 Arrow Keys | To move position, select function, or change setting. |
| ENTER | To set item or register the immediately preceding input value. |
| PAUSE/RESUME | To temporarily halt cutting process or to continue |
| ON/OFF LINE | To switch modes, stop cutting job, or abort changes of settings. |
| OFFSET | To adjust the value of blade's offset. |
| FORCE | To adjust the value of cutting force. |
| SPEED | To adjust the value of cutting speed and quality. |
| CUT TEST | To perform cutting tests in different ways. |
| DATA CLEAR | To clear up buffer memory. |
| TOOL SELECT | To select tools. |
| MISC | To set up functions. |

Please see details in "3.4 Menu Items"

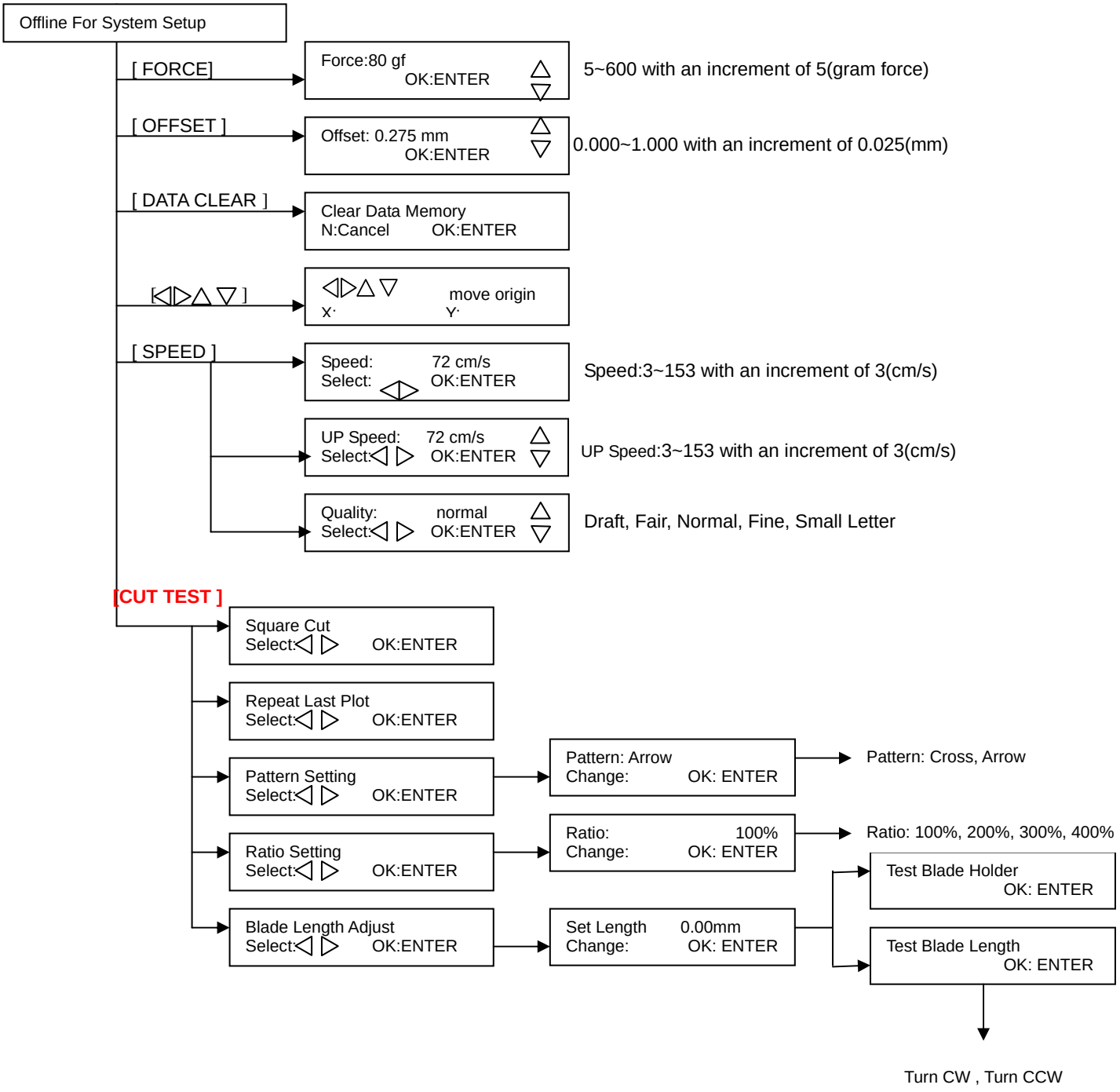
## 3.2 Menu in On-line Mode

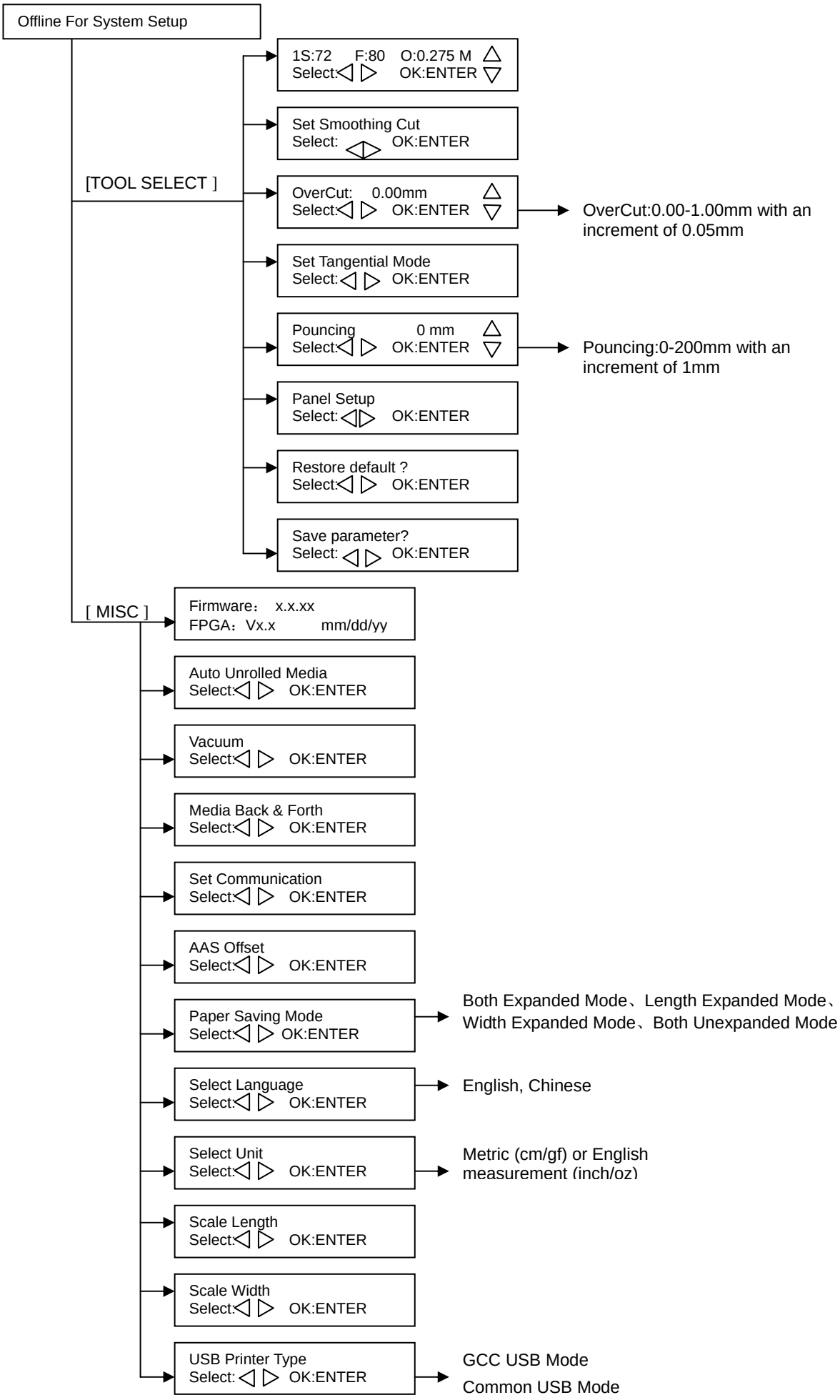
**Power On** Jaguar IV in processing



## 3.3 Menu in Off-line Mode

**Press [ON/OFF LINE] to switch to the offline mode**




Offline For System Setup
[TOOL SELECT ]
1S:72 F:80 O:0.275 M
Select: OK:ENTER
Set Smoothing Cut
Select: OK:ENTER
OverCut: 0.00mm
Select: OK:ENTER
OverCut:0.00-1.00mm with an increment of 0.05mm
Set Tangential Mode
Select: OK:ENTER
Pouncing 0 mm
Select: OK:ENTER
Pouncing:0-200mm with an increment of 1mm
Panel Setup
Select: OK:ENTER
Restore default ?
Select: OK:ENTER
Save parameter?
Select: OK:ENTER
[ MISC ]
Firmware： x.x.xx
FPGA：Vx.x mm/dd/yy
Auto Unrolled Media
Select: OK:ENTER
Vacuum
Select: OK:ENTER
Media Back & Forth
Select: OK:ENTER
Set Communication
Select: OK:ENTER
AAS Offset
Select: OK:ENTER
Paper Saving Mode
Select: OK:ENTER
Both Expanded Mode、Length Expanded Mode、Width Expanded Mode、Both Unexpanded Mode
Select Language
Select: OK:ENTER
English, Chinese
Select Unit
Select: OK:ENTER
Metric (cm/gf) or English measurement (inch/oz)
Scale Length
Select: OK:ENTER
Scale Width
Select: OK:ENTER
USB Printer Type
Select: OK:ENTER
GCC USB Mode
Common USB Mode

## 3.4 Menu Items

Below describes the functions of menu items

| Menu or Key | Function | Setting | Default |
|---|---|---|---|
| **--- Media sizing ---** | | | |
| Roll | To measure media width. | Maximum Tracking 150 meters | |
| Edge | To measure media width and pull the media back till the front paper sensor open. | Maximum Tracking 150 meters | |
| Single | To measure media width and length. | Maximum Tracking 10 meters | |
| **--- POWER ---** | | | |
| | To indicate the power status. | | |
| **[ Arrow Keys ]** | | | |
| | 1. To move the tool carriage position on X or Y axis.<br>2. To select functions or change values of settings. | | |
| **[ ENTER ]** | | | |
| | 1. The displayed parameters will be saved automatically.<br>2. To set a new origin at the present tool carriage position. In “offline” mode, moving the tool carriage to desired position by [Arrow Keys], then press [ENTER] key to set a new origin. While moving with the parameters of XY-axes displayed, press [MISC] key will enable fine-tune movement; press [MISC] key again to disable the function. | | |
| **[ PAUSE/RESUME ]** | | | |
| | To temporarily halt the cutting process.<br>To resume the process by press [Pause/Resume] key again. | | |
| **[ ONLINE/OFFLINE ]** | | | |
| | 1. To switch between online mode and offline mode.<br>2. To stop the cutting job or abort the change of setting. Once press this key, the cutting job will be terminated immediately and cannot be resumed. | | |
| **[ OFFSET ]** | | | |
| | To set or modify the distance between the blade tip and the center axis. | 0.000~1.000mm | 0.275mm |
| **[ FORCE ]** | | | |
| | To set or modify the value of tool force. | 5~600gram;<br>5 gram/per step | 80 gram |
| **[ SPEED ]** | | | |
| Speed | To set or modify tool speed at horizontal moving. | 3~153cm/sec;<br>3cm/sec per step | 72cm/sec |
| Up Speed | To set or modify tool speed at vertical moving. | 3~153cm/sec;<br>3cm/sec per step | 72cm/sec |
| Cutting Quality | To set or modify cutting quality.<br>While cutting small letter, set as “Small letter”.<br>While cutting in high speed, set as “Draft”.<br>For normal operation, set as “Normal”. | Draft, Fair, Normal, Fine, Small Letter | Normal |
| **[ CUT TEST ]** | | | |
| Square Cut | To perform a cutting test at present blade position.<br>For more information, please refer to “4.3 Adjusting the Cutting Force and Offset” to adjust blade force and cutting speed. | | |

| | | | |
|---|---|---|---|
| Repeat Last Plot | Recut:<br>To repeat the last job without re-sending the data. | 1~99;<br>1 per step | |
| | Copy:<br>To copy the last job without re-sending the data.<br><br>* 1mm gap will be auto-generated between 2 copies).<br>* If the media length is not enough to continue, it will show below message on LCM:<br>Out Of Space; # of Copies finished<br>* If both functions are enabled at the same time, the cutter will perform the last setting only. | 1~99;<br>1 per step | |
| Pattern Setting | To provide two patterns for cut test<br>Note: It is recommended to select “Cross” if you are working on thick pieces of materials. | “Arrow” and “Cross” patterns | “Arrow”<br>Note: the default pattern for Jaguar IV_R is “Cross” |
| Ratio Setting | To adjust the size of the pattern | 100%, 200%, 300%, 400% | 100% |
| Blade Length Adjust | To adjust the length of the blade<br>Note:<br>1. Keep your blade length as 0 before you start adjusting.<br>2. Test the blade holder first and then test the blade length by pressing ENTER.<br>3. Keep the blade holder at the same position when you perform blade holder and blade length tests.<br>4. When blade holder and blade length tests are finished, the screen will show you to what degree (the unit of the value following “CW” or “CCW” is “circle”) and in which direction [CW (clockwise) or CCW (counterclockwise)] you should turn the adjustment knob.<br>EG, Turn CW 0.5 is telling you that you should turn the knob for half a circle clockwisely.<br>5. The value on the screen will be 0.0 when the blade length is perfect and no more adjustment needs to be made. You may start cutting at this point. | 0.00mm-5.00mm | 0.00mm |
| **[ DATA CLEAR ]** | | | |
| | To clear up buffer memory. | | |
| **[ TOOL SELECT ]** | | | |
| Set Smoothing Cut | To enable smooth-cutting function. | | Enable |
| Over Cut | To generate an overcut to facilitate weeding. | 0.00mm-1.00mm<br>0.05mm/per step | 0.00mm |
| Set Tangential Mode | To enable the emulated tangential-cutting mode for thicker media types and small letter cuts.<br>Note: while the Offset value setting at 0.000 mm, “Set Tangential Mode” will automatically be disabled. | | Enable |

| | | | |
|---|---|---|---|
| Pouncing | To make perforated patterns.<br>* In order to use this function, Pouncing tool must be installed.<br>* Before start pouncing, place pouncing strip on top of the cutting pad to protect the cutting pad.<br>* Set the value as 0 mm to disable the pouncing mode.<br>* Pouncing tool is an optional item. | 0~200mm | 0mm |
| Panel Setup | Accept setup command:<br>To accept commands of the Force, Speed, Cutting Quality, and Offset only via software. | | |
| | Control panel only:<br>To accept commands of the Force, Speed, Cutting Quality, and Offset only via control panel of the cutter. | | |
| Restore Default | To turn all parameters of the menu items to factory-default settings. | | |
| Save Parameter | To save pattern(s) of cutting parameters for later use. | Patterns1~4 | Pattern 1 |
| **[ MISC ]** | | | |
| Auto Unrolled Media | To avoid paper jam and motor crash by automatically unroll media (50cm and up) before cutting while enabled. .<br>* Auto-unroll only effects on roll/edge media.<br>* Using Single mode to size media will disable this function automatically.<br>* If the length of the rolled media is less than 2 meters or the weight is light, it is recommended to set this mode disabled. | | Enable |
| Vacuum | To help improve tracking and cutting accuracy by turning on the fans. If you turn off the vacuum system, the fans will remain inactive during cutting or plotting. | | Enable |
| AAS Offset | To set or modify AAS offset value.<br>You can refer to “5.3 Printer Test” for more details. | | |
| Media Back & Forth | To enable to save time on repeated cutting jobs and better tracking.<br>After cutting job has finished, the media will move back to the origin, then move to the end of the plot. | | Disable |
| Paper Saving Mode | To save media by four different modes:<br>1. Length expanded mode 2. Width expanded mode<br>3. Both expanded mode 4. Both unexpanded mode | | Both unexpanded mode |
| Set Communication | To build up the communication between host computer and cutter.<br>*Baud Rate* is to determine the speed of data transmission.<br>*Data Bits* refers to the size of one block of data.<br>*Parity* is used to check if data was revived correctly or not.<br>9600, n, 7, 1, p 9600pbs, 7 Bits with NO Parity<br>9600, o, 7, 1, p 9600pbs, 7 Bits with ODD Parity<br>9600, e, 7, 1, p 9600pbs, 7 Bits with EVEN Parity<br>9600, n, 8, 1, p 9600pbs, 8 Bits with NO Parity<br>9600, o, 8, 1, p 9600pbs, 8 Bits with ODD Parity<br>9600, e, 8, 1, p 9600pbs, 8 Bits with EVEN Parity<br>19200, n, 7, 1, p 19200pbs, 7 Bits with NO Parity<br>19200, o, 7, 1, p 19200pbs, 7 Bits with ODD Parity<br>19200, e, 7, 1, p 19200pbs, 7 Bits with EVEN Parity<br>19200, n, 8, 1, p 19200pbs, 8 Bits with NO Parity<br>19200, o, 8, 1, p 19200pbs, 8 Bits with ODD Parity<br>19200, e, 8, 1, p 19200pbs, 8 Bits with EVEN Parity | | |
| Firmware Version | To display the version number of Firmware and FPGA code. | | |

| | | | |
|---|---|---|---|
| Select Language | To select displayed languages on LCM panel in English, Spanish, Italian, Deutsch, Japanese, Portuguese, Polish, Turkish or French. | | English |
| Select Units | Provide two-unit systems for users convenient. | cm/gram; inch/oz | Metric |
| Scale Length<br><br>Scale Width | To adjust the scale of media length and width that may cause by the thickness of the media.<br><br>The Denominator is the actual length, and the Numerator is the ideal length measured from the resultant.<br><br>For example, cutting a line with 500.0 mm length. The procedure as follows:<br>1. Press the [LEFT ARROW] to choose the Numerator and select 500.0 mm,<br>2. Cut the length by sending a graph file,<br>3. Measure the length then use the [RIGHT ARROW] key to choose the Denominator, then<br>4. Press [UP ARROW /DOWN ARROW] to change the values of the actual length. | | |
| USB Printer Type | To select USB Mode from the LCM panel. Two USB modes are available: GCC USB Mode and Common USB Mode.<br><br>GCC USB Mode: For 32 bit driver<br>[Windows XP/2000/ 7 /Vista]<br><br>Common USB Mode: Both for 32 bit & 64 bit driver<br>[Windows XP/7/Vista] | | Common USB Mode |

# 4. Operation

## 4.1 Media Loading

### 4.1.1 Loading the Sheet Media

To load the media properly, please follow the procedures listed below:

**Step 1**

Use the lever on the upper right side of the cutting plotter to raise or lower down pinch rollers. Pull the lever forward until it makes a clicking sound then the pinch rollers are raised (Figure 4-1).

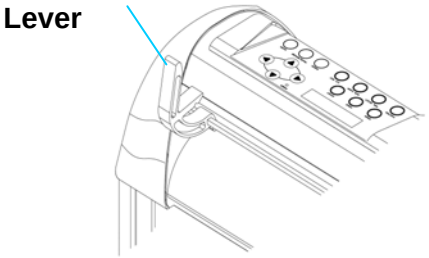



Figure 4-1

**Step 2**

Load your media on the platen and slide it under the pinch rollers from either the front side or the backside. The **alignment rulers** on the platen extension will help you to adjust the media precisely.

**Note:**
Be sure that the media must cover the paper sensors on the platen when loading the media. At least one of the two paper sensors (Figure 4-2) should be covered. Once the media covers the sensor, the cutting plotter will size the media width and length automatically.

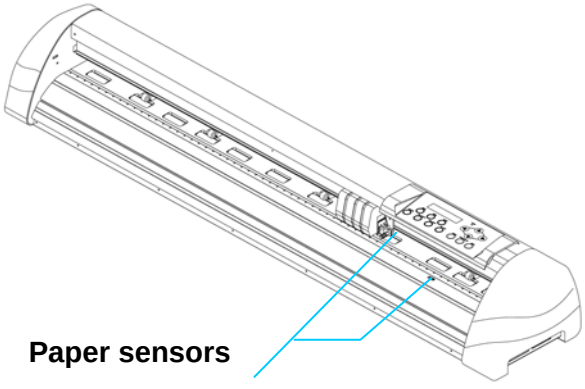



Figure 4-2

**Step 3**

Then move the pinch rollers manually to the proper position. Be sure the pinch rollers must be positioned above the grid drum. The **white marks** on the top trail will remind you where the grid drums are (Figure 4-3).

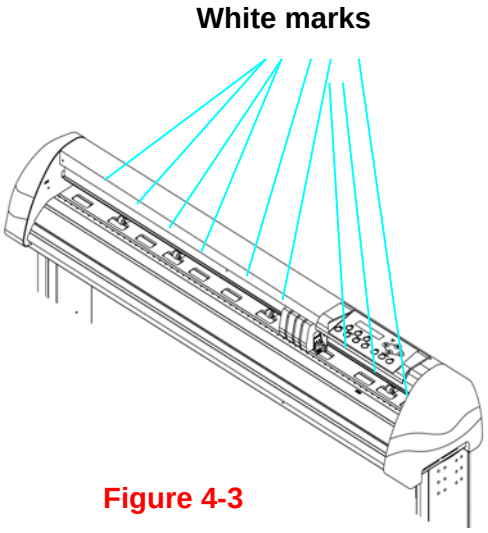



Figure 4-3

**Step 4**

Push the lever backward to lower down the pinch rollers.

**Step 5**

Turn on the power, the tool carriage will measure the size of the media automatically. And the plotting cutter begins to work.

**Note:**

1. Always adjust the position with the pinch roller raised.
2. Move the pinch roller by applying force at the rear portion of the pinch roller support.
3. Do not move it by holding its front rubber roller (Figure 4-4).

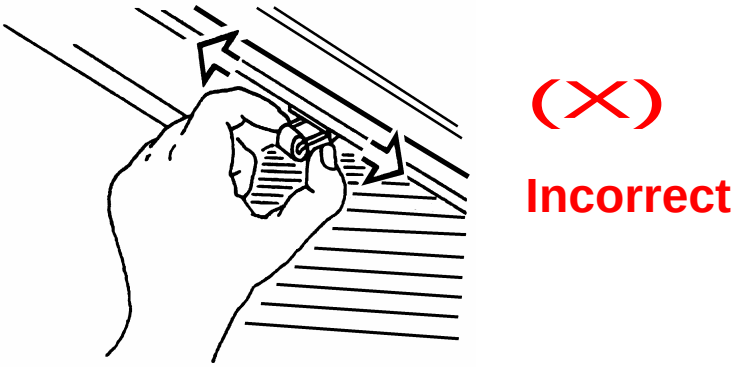



Figure 4-4

### 4.1.2 Loading the Roll Media

**Step 1**

Put the roll media guide bushes on two roll holders (Figure 4-5).

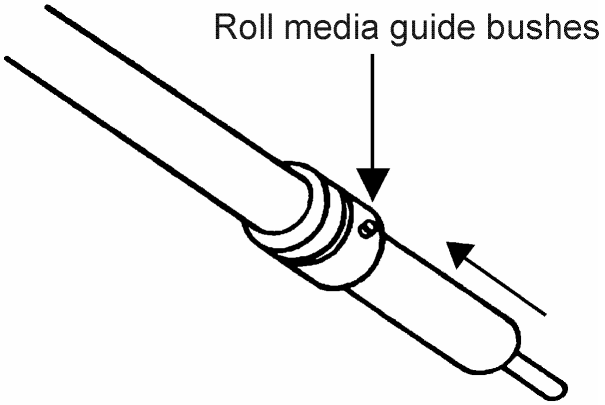



**Figure 4-5**

**Step 2**

**-- Option A (Recommended)**

Insert the two roll holders into the roll media support set then place the roll media directly between the two roll holders (Figure 4-6).

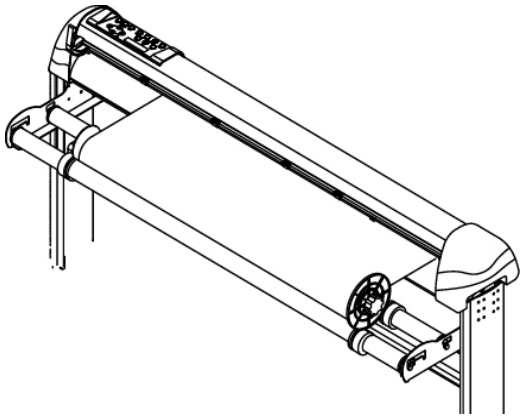


**Figure 4-6**

**-- Option B (Use the media flanges)**

Insert a roll media flange at the end of each roll media and tighten the thumbscrew until the roll media is firmly gripped(see Figure 4-7).

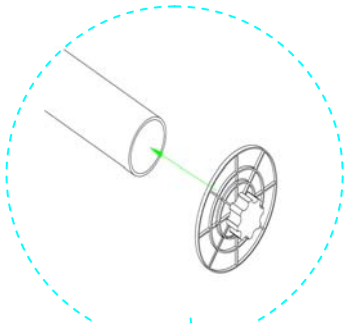


**Figure 4-7**

Then put the roll media on the roll holders. Adjust the position of the roll media ensure that media flanges are able to run in the grooves of media guide bushes. (Figure 4-8)

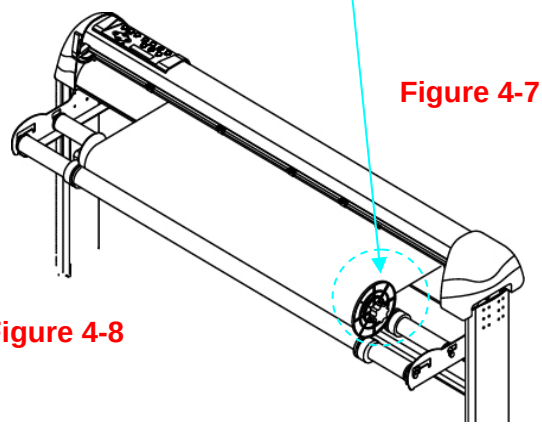


**Figure 4-8**

**Step 3**

Load the media on the platen. Please refer to “4.1.1 Loading the sheet media”. After loading the roll media, flatten the media on the platen and hold the front edge of the roll media firmly (Figure 4-9).

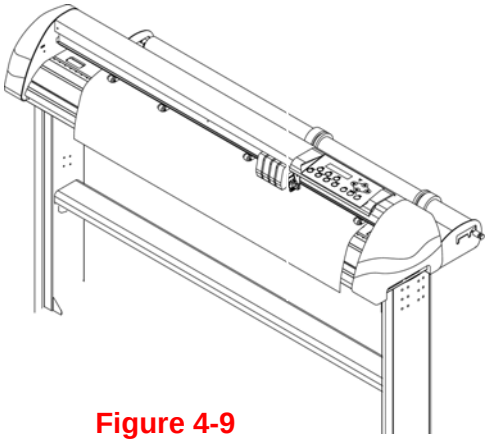


Figure 4-9

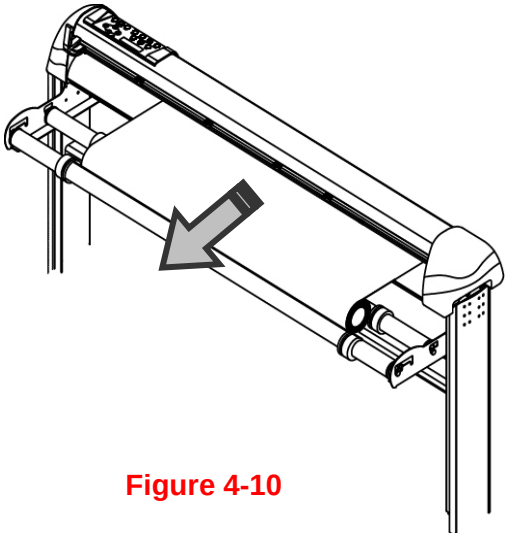


Figure 4-10

**Step 4**

Turn the roll downward to make an equal tension across the media (Figure 4-10)

**Step 5**

Move the pinch rollers to the appraise location and note that the pinch rollers must be positioned above the grid drums.

**Note :**

Make sure that the media tension is equally distributed from left to right. If the media were not tightened enough against the platen, it would cause tracking problems!

**Step 6**

Push the lever backward to lower down the pinch rollers.

**Step 7**

Fix roll media guide bushes on the roll holder to secure the roll media.

**Step 8**

Turn on the power switch, the tool carriage will sizing the media automatically.
Then the cutting plotter is ready to work.

**Step 9**

Use the reverse steps to remove the media.

## 4.2 Tracking Performance

In order to achieve the best tracking performance for a long plot, we recommend some significant media loading procedures described as follows:

If the media length is less than 4 meters, leave the margin of 0.5mm—25mm in the left and right edges of the media (Figure 4-11).

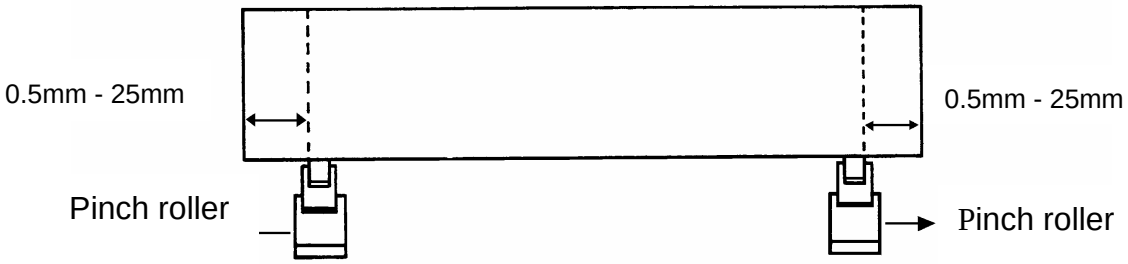



**Figure 4-11**

If the media length is greater than 4 meters, leave at least 25mm margin on the left and right edges of the media (Figure 4-12).

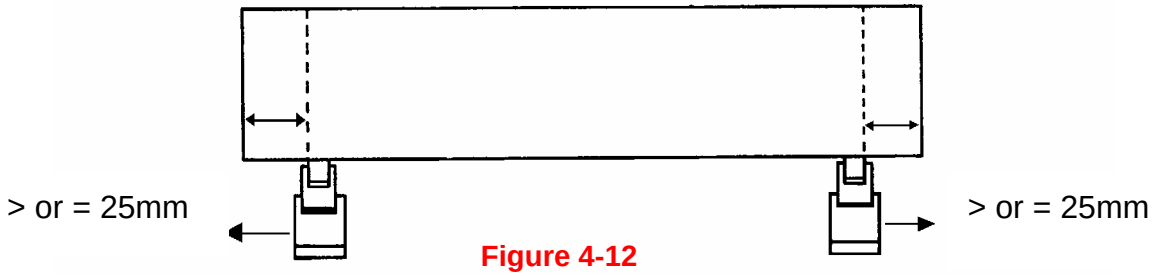



**Figure 4-12**

Please refer to the paragraph “4.5 How to Make A Long Plot” for more details.

## 4.3 Cutting Force and Offset Adjustment

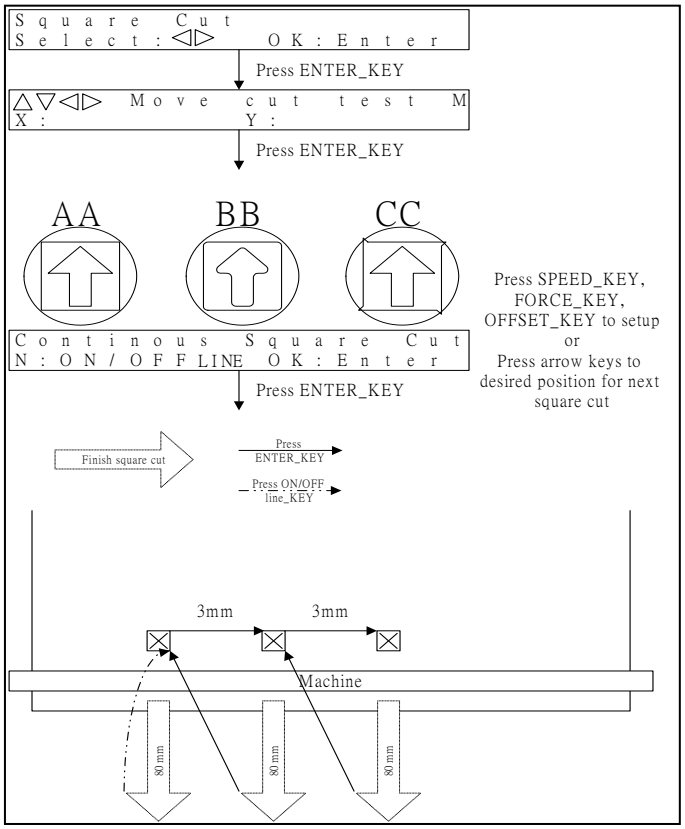
Before sending your designs for cutting, you may perform a “cut test” to generate satisfactory cutting results. The “Cut Test” should be repeated until the appropriate cutting conditions for the media are discovered.

After sizing the media, press [CUT TEST] button to select the “square cut”, and press [ENTER KEY] to confirm.

The default cutting force and offset value of the cutting test are 80gf and 0.275mm respectively. Press [ARROW KEY] to move the tool carriage to the position where you like. Then, press the [ENTER KEY] to perform Cut Test.

Note: At the same time, the new origin is also set at the cutting test position.

When the cutting test is completed, a pattern appears. Peel off the pattern to see if it can be easily separated from the media base. If yes, the setup tool force is appropriate. If not or cut through the back paper, press [FORCE KEY] to adjust the tool force until an optimum force is obtained (Figure 4-13).




If the pattern appears to be BB or CC layout, press [OFFSET KEY] to adjust the offset value until AA pattern discovered.

**Figure 4-13**

## 4.4 How to Cut 3mm Letters

To obtain good quality output, narrow media is recommended. However, if wide media is used, you should:

1. Position two pinch rollers as close as possible to both edges of the cutting area.
2. Make sure the loaded media is held flat with equal tension across the platen.
3. Suggested operation settings:

   Tool force: 55 gf. (or depending on the material)
   Cutting speed: 45-50 cm/sec
   Tool up speed: 45-60 cm/sec
   Smooth cut: Disable
   Quality: Small Letter

## 4.5 How to Make A Long Plot

When you are making a long plot with a roll of heavy and wide vinyl, paper you need to use the “AUTO UNROLL MEDIA“ function. The following parameter settings are to help users get the best cutting quality. The actual output quality may vary when using different kind of materials

1. If the length of graphic is between 3m and 5m, the cutting speed is better slower than 72cm/sec and the cutting quality is set as Normal.
2. If the length is longer than 5m or if the material type is difficult to cut, it is better to further slow down the cutting speed.
3. After loading the roll media all pinch rollers are raised at this stage, flatten the media on the platen and hold the front edge of the roll media firmly (Figure 4-14).

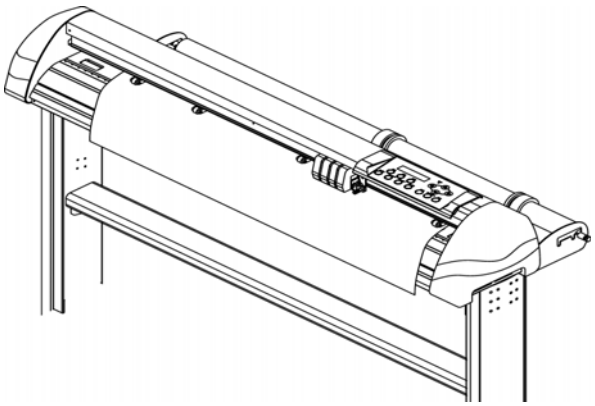


**Figure 4-14**

Then turn the roll downward to make an equal tension across the media (See Figure 4-15)

Make sure that the media tension is equally distributed from left to right. If the media is not tight enough against the platen, it will cause tracking problems.

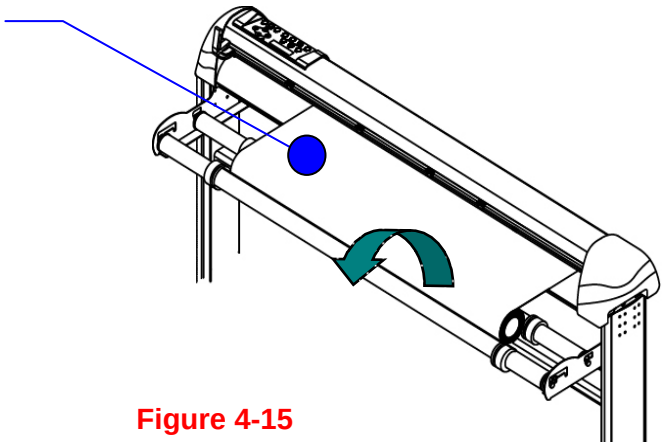


Figure 4-15

4. Engage pinch rollers.
5. Fixes roll media guide bushes on the roll holder to secure the roll media.
6. The protrusion length of the blade should be longer than the thickness of the vinyl. (Please check the “Blade Specification: About the Tool” in Appendix.) After you notice all the above, you’ll enjoy your gigantic signs production!

## 4.6 When Completing the Cutting Job

After completing the cutting job, raise the sheet-loading lever, and then remove the material. You can also cut off the finished job by the Safe Blade (a standard accessory) along the knife guide. (Figure 4-16)

Figure 4-16

## 4.7 Jaguar IV Print Driver setting

4.7.1 Jaguar IV Print Driver setting>Option Page

Die Cut

The Die Cut function must be activated with the Kiss Cut function to avoid the falling of cut-through materials and material jam beneath the carriage. Die Cut helps you to cut through the backing of the material while Kiss Cut cuts through only the top layer but not the backing. This will leave only tiny bits of the backing attached to the top layer, creating complete individual patterns with backing sheets (see figure 1 and 2).

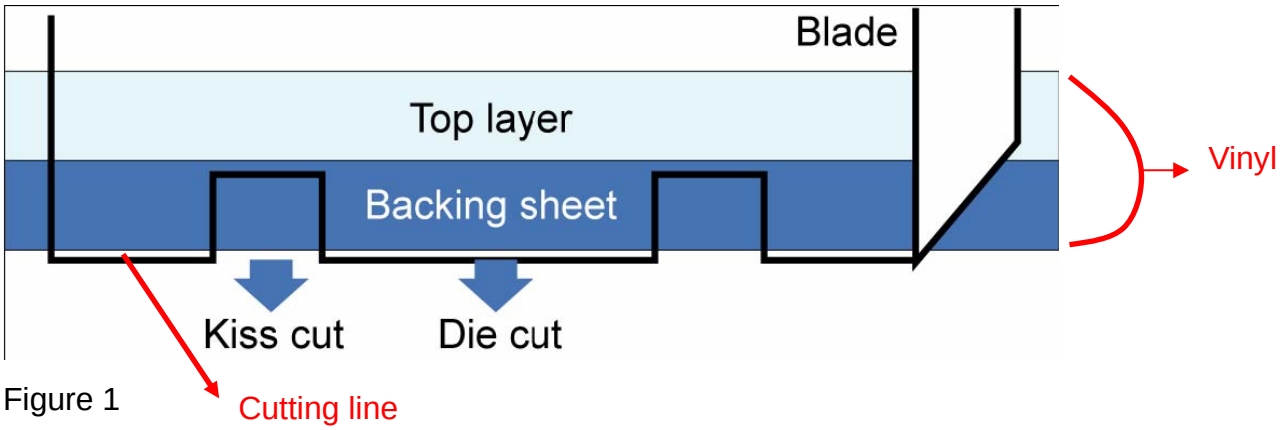



Figure 1

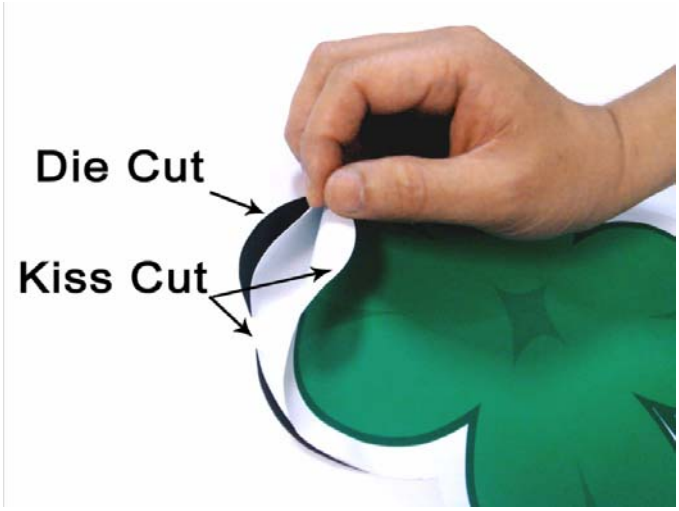
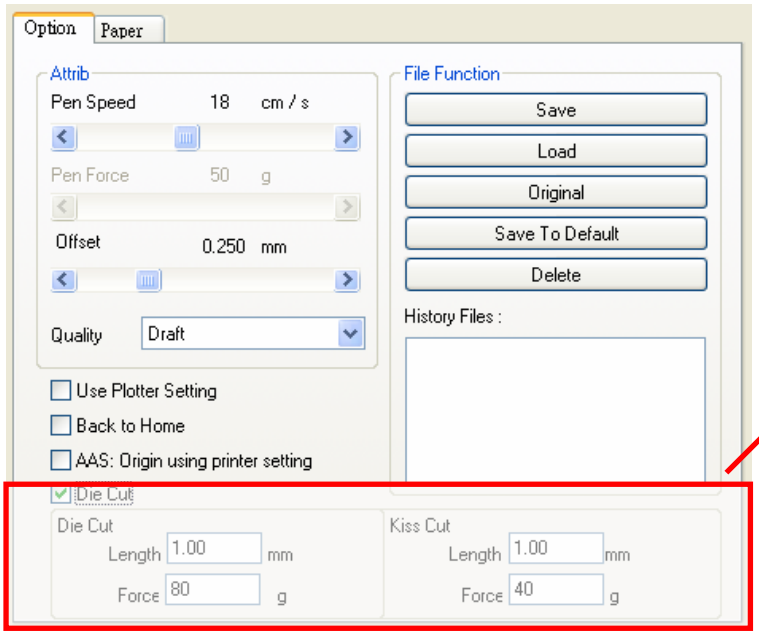



Figure 2

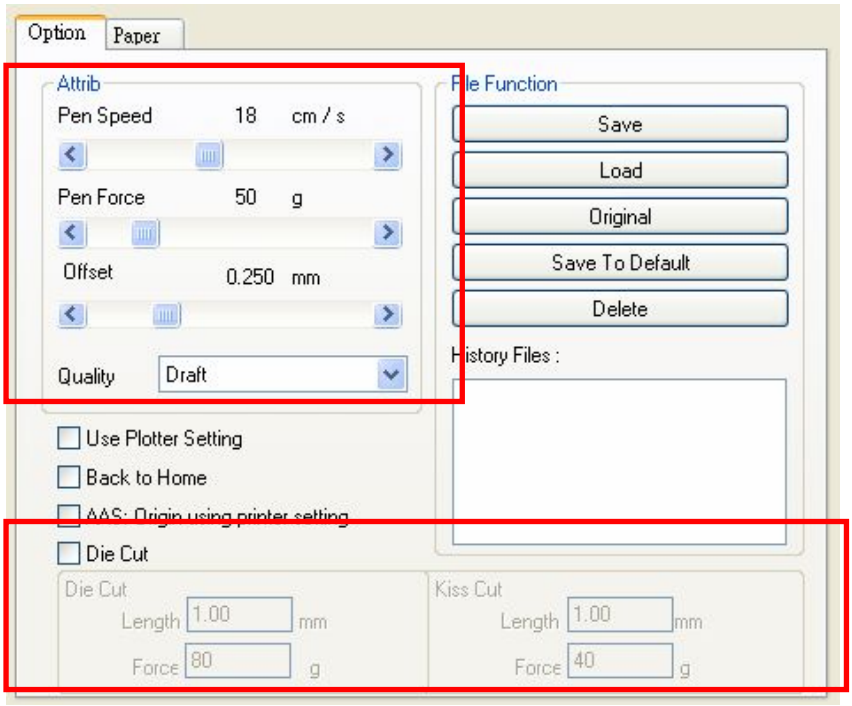
To activate the Die Cut function, go to “Option”, tick “Die Cut”, and enter the amount you wish for the “Length” and “Force” of both Die Cut and Kiss Cut, then click “OK” (see figure 2).




*Note:
The length setting for the cutting line of Die Cut is in the range of 0-2000mm whereas that of Kiss Cut is 0-100mm.

Figure 3

When the job is completed and you untick the Die Cut function, you will be able to adjust the pen speed, pen force, and offset in the section on the top following normal operating procedures (see figure 3).




Note:
1. The extension of the blade has to be set to cut through both the top layer and the backing in the very beginning. You then adjust the tool force for the best cutting performance.
2. Once the Die Cut function is activated, it will perform on all the line segments on the object.

Figure 4

4.7.2 Jaguar IV Print Driver setting>Paper Page

Connecting Multiple Cutters to one PC

This function allows your computer to recognize the cutter you wish to perform your job on from other cutters with the same model name and printers connected at the same time, eliminating its confusion when you send your image to the cutter.

To activate this function, go to “Paper” and tick “Connecting Multiple Cutters to one PC” (see figure 1). Please do not tick this box if only one cutting plotter is in use.

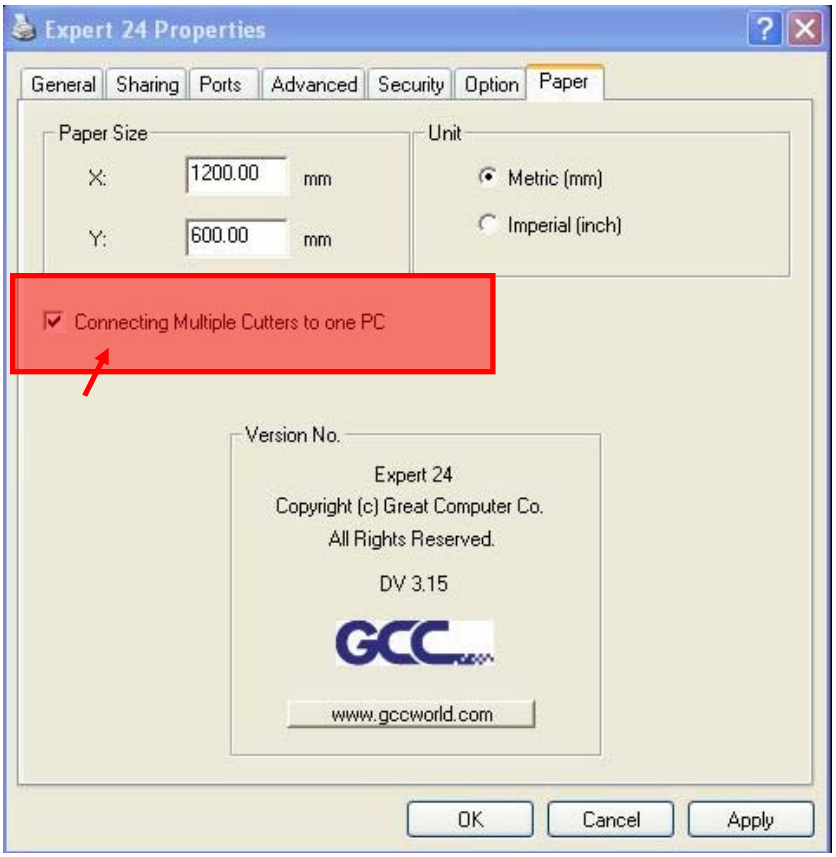



Figure 1

When you are prompted to this window below, change your port setting manually.

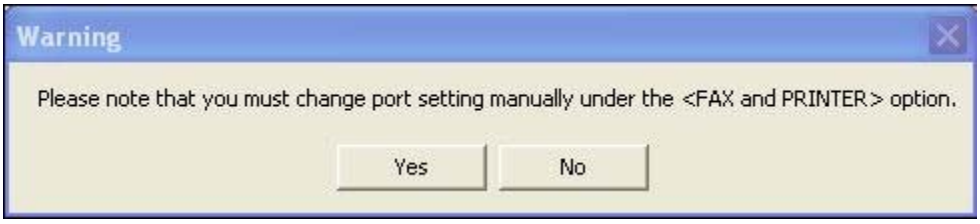



Figure 2

To do this, please go to “Printers and Faxes”, right click on the model you would like to work on and click on “Properties”.

Go to “Ports” and tick the corresponding USB port (see figure 4). When this is completed, apply the same steps to other cutters you would like to work on (see figure 5). Please make sure you connect each cutter back to the same corresponding USB port every time.

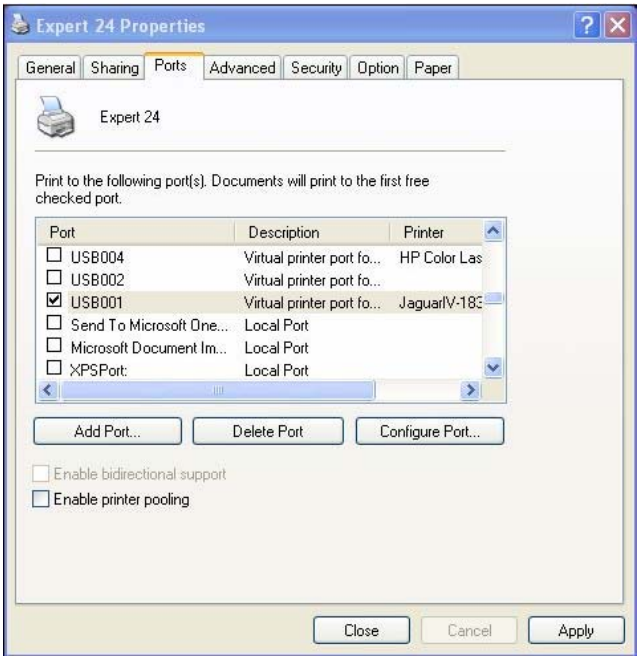



Figure 4

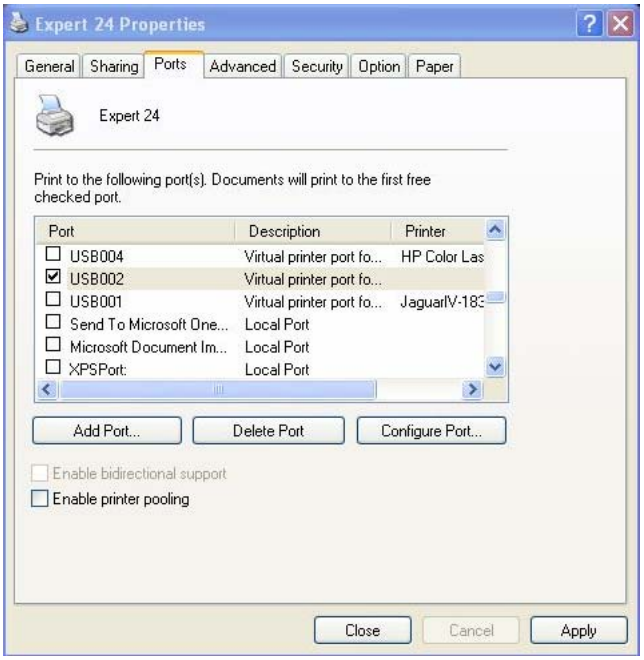



Figure 5

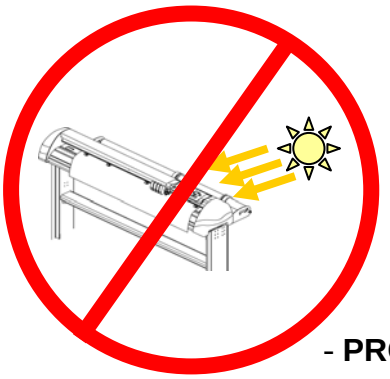
# Chapter 5 Accu-Aligning System

## 5.1 Introduction

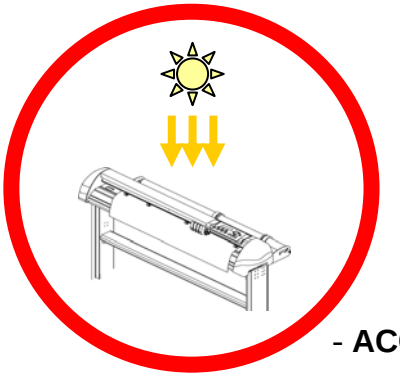
The Jaguar IV series cutting plotters feature a standard Accu-Aligning System (AAS II) to guarantee precise contour cutting quality by detecting the registration marks printed around the graphic.

**Notice**

- Avoid any kind of light source horizontally illuminating the AAS module.



- **PROHIBITED**



- **ACCEPTABLE**

- DO NOT take off the cover of AAS module while in operation.

- **PROHIBITED**

## 5.2 AAS Calibrating the System

The AAS system has one calibration procedures to ensure maximum accuracy of AAS operation. To operate the AAS you need to learn about the method of media feeding firstly. (Refer to 4.1 Media Loading.)

### 5.2.1 Media Calibration

Media Calibration is to ensure the sensor being able to recognize the registration marks. The factory default works on a wide range of materials. However, certain types of materials may not work properly. Performing a media calibration may become necessary while working with such materials to change the sensitivity of AAS for greater reliability. Media calibration adjusts the media feeding according to media type for better accuracy during cutting.

- **When to use**

  We suggest white media for best cutting result. It is not necessary to perform media calibration every time unless the registration marks on the printed media become undetectable in AAS sensing process.

### 5.2.2 AAS Calibration

The first registration mark is designed to be different in order to identify the origin for AAS auto-detection. The following precaution must be aware for registration marks to be read automatically.

- Type of media
- Registration mark pattern
- Reading range required for detection the registration marks
- Position for registration marks and medium

The registration marks have to be:

- Created by cutting software like SignPal or GCC CorelDRAW plug-in
- In black color
- “L” Mark Length: 10mm~50mm, suggested 25 mm
- “L” Mark Thickness: 1mm~2mm, suggested 1 mm
- Margin: 1mm~50mm, suggested 5 mm

The cutter can not detect the marks while:

- Cutter carriage is not located near the outside area of first mark before detecting (See the picture in page 5-7 for auto-detecting area of first mark.)
- Medium thickness is more than 0.8mm
- Transparent medium is used

- Non-monochrome drawing. The marks can't be read if is printed on colored medium
- Dirty or creased medium surface

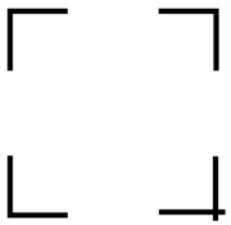
### 5.2.3 AAS II on Jaguar IV

There are three types of AAS II mark patterns: 4-Point Positioning, Segmental Positioning, and Multiple Copies. Note that before print out your designs by inkjet printers, the registration marks have to be created on your graphic designs by cutting software like SignPal, EasySign or GCC CorelDraw plug-in. Hand-made marks or drawings won't be reorganized by GCC cutting plotters. For more details about registration mark setting in cutting software, please refer to '**Appendix A-3** : CorelDraw Plug-In Instruction", '**Appendix A-4** : SignPal 8.5 Instruction', '**Appendix A-5** : EasySIGN Instruction' and '**Appendix A-6** : GreatCut Instruction.

1. **4-Point Positioning**

   This is the basic mark pattern that AAS II will auto detect four registration marks and contour cut images inside those marks.

   - Command: Esc.D1;(XDist);(YDist):
   - Layout: 4 L-shaped marks at the 4 corners around the design



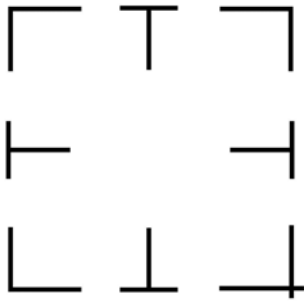
2. **Segmental Positioning**

   In addition to 4 original points, the intermediate registration marks are added on both X axis and Y axis to help contour cut accurately, especially for cutting large images.

   - **Command:** Esc.D2;(XDist);(YDist);(XStep);(YStep):
   - **Layout:**

     In-between distance on X: 200~600mm, default 300mm

     In-between distance on Y: 200-600mm, default 300mm



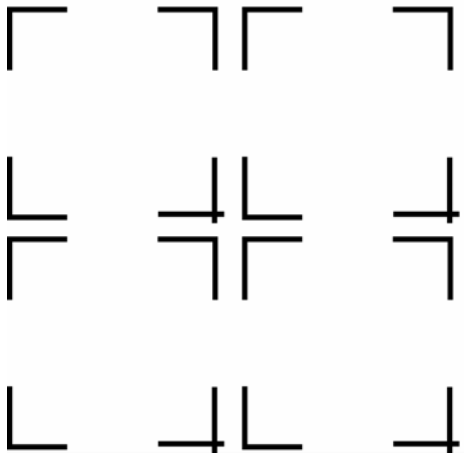
**3. Multiple Copies**

The function is used to duplicate images to let you cut quantities of images at a time.The AAS II sensor will automatically scan registration marks for each individual image to ensure the contour cutting precision.

- **Command:** Esc.D3;(XCopies);(YCopies);(Space):
- **Layout:**

Condition 1 (Default)

Condition 2



## 5.3 Printer Test

Before performing AAS contour cutting, it's recommended to print out a test file that you can find in the enclosed Installation CD to make sure the AAS II cutting accuracy of Jaguar IV.

There are two testing files for AASII:

1. AAS II_X_Y_Offset_Caberation_A4 .eps (A4 size)
2. AAS II_X_Y_Offset_Caberation_600_600 .eps (Default setting, it is recommended for testing)

- Print out the testing graphic. ( Please use high precision printer)
- Load the graphic to Jaguar IV and sent the file to test the cutting job
- If there is any adjustments had to be made, you can change the offset value by following the steps:
  - ∗ Measure the offset values from the printed line and the actual cutting line.
  - ∗ Enter the AAS Offset under MISC function for the values you just measured, then press Enter
  - ∗ Test the cutting again

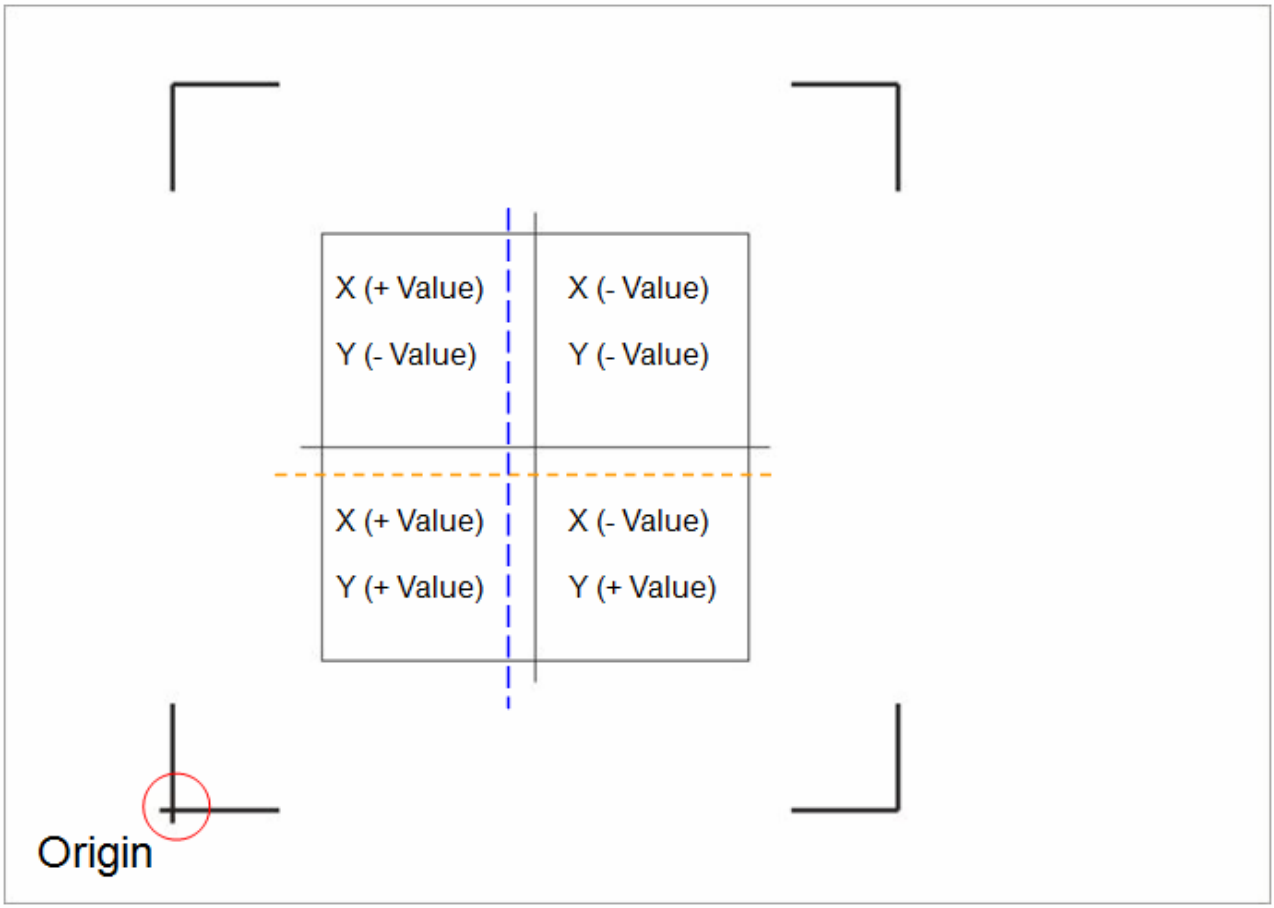
∗ AAS II offset X and Y value is defined as following:
Horizontal line is defined as X and vertical is defined as Y

∗ When the actual cutting line and the printed line need to be changed towards the direction of origin mark, then simply add the ***negative*** value of the offset. If the direction is from the opposite of the origin mark, then enter ***positive*** values for the offset. This method apply on both X and Y axle.

**For example:**

If the values set in cutter is X: 0.50 mm Y 0.50 mm and the measurement is X1:-0.25 mm Y 1:+0.25 mm. (In following figure, the Blue Line refers to the Y Value, and the Red Line refers toe the X value.)

We need to adjust AASII offset X new : (X + X1) Y new : (Y + Y1) which means X new : 0.25 mm Y new : 0.75, then save the set new value to cutter.




Note:

- Before adjusting the AAS II settings, please proceed scaling for width and length.
- The blade offset value isn't set for this test graphic, please set it according to the blade you use.
- If you have any question, please contact us or your local distributor for assistance.

## 5.4 Contour Cutting

For accurate contour cutting with AAS function, please proceed the following steps:

**Step 1** **Creating Graphics**

■ Create the graphic that you want to print and cut in your software.

■ Create a contour for cutting around the graphic.

TIPS1: Leave some space between the graphic and contour line.

TIPS2: Create the contour in a separate layer and assign a different color for it.

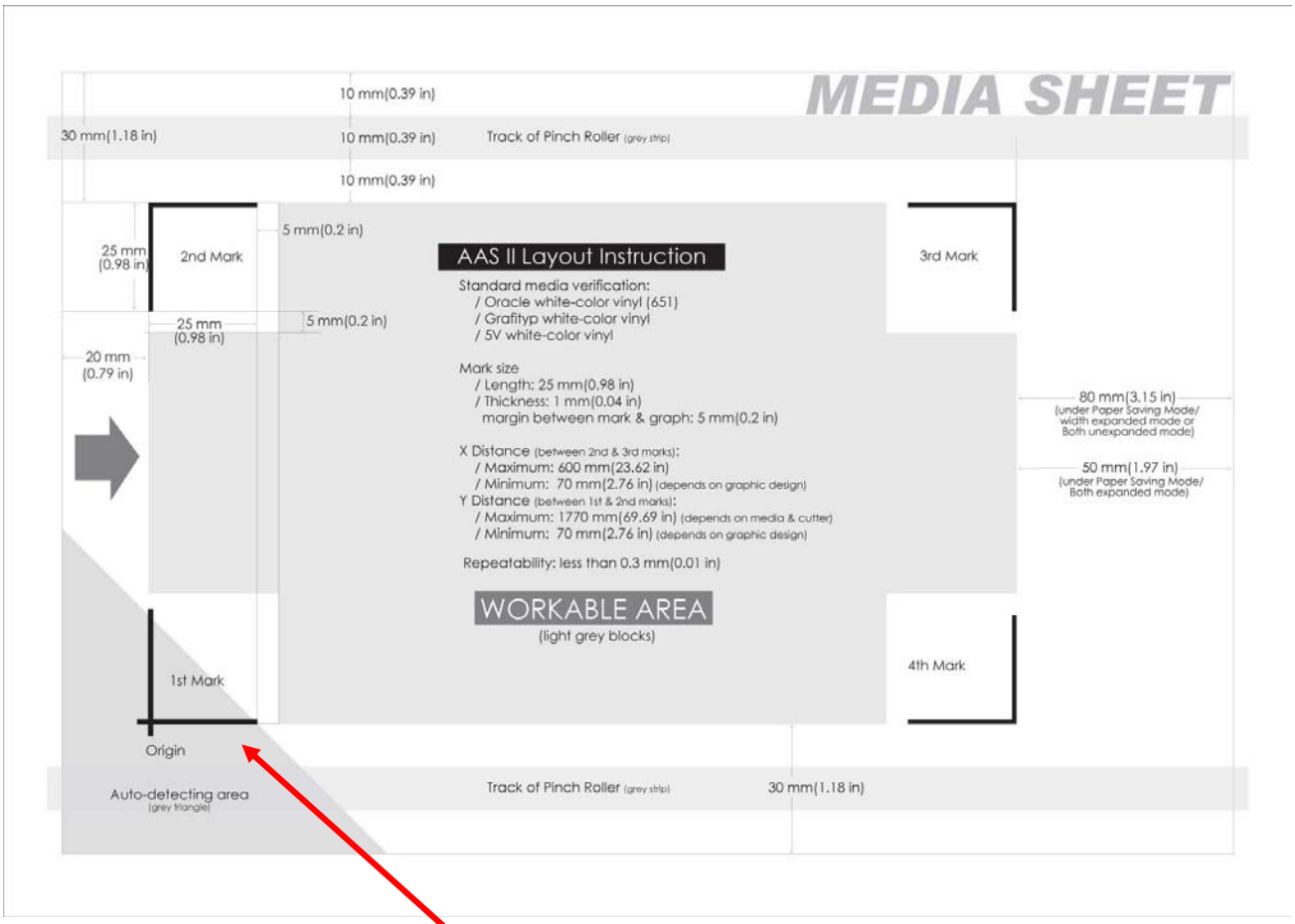
■ Add registration marks around the graphic.

**Note:**

The Multiple Copies function is also available. It automatically copy the graphic and registration marks.

## Step 2 Placing the Registration Marks

■ The AAS Layout Instruction:



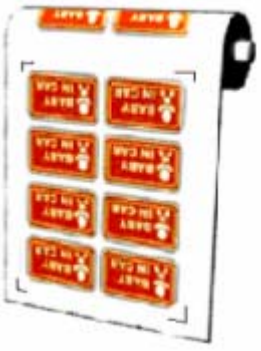

* Auto-detection function on the 1st mark covers the grey area

■ Suggested 30mm margin on both left and right sides of media sheet.

■ Suggested 20~30mm margin on top of media sheet, and at least 50mm margin on the bottom edge to prevent sheets dropping or any error occurred while media sizing.

## Step 3 Print the Graphics

■ Print the graphic and the marks with your printer

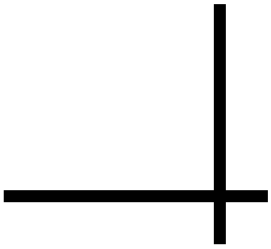


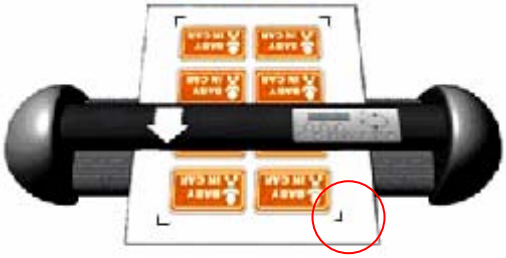
(Scaling = 100%).

■ When printing on a roll media, make sure the orientation as following:

**Step 4** **Load the printout onto cutter**

■ The Origin Mark is is different from the rest registration marks. Please make sure the media is fed with correct direction.





**Step 5** **Cut the Contour**

■ Send out the command from software to perform the contour cutting job.

## 5.5 Tips for AAS

For getting better results of contour cutting, there are some tips below for your reference.

- Keep light sources simple and avoid illuminating from the sides of cutter.
- Before operating AAS, change the maximum paper size in Jaguar IV driver property.
  **STEP 1** Find the **Puma III model** in the “Printer & Fax” folder of your PC.
  **STEP 2** Open the Properties window and select the “Paper” tab.
  **STEP 3** Change the maximum Paper Size of X to **1200**mm.
- Adjust the cutting speed to between 300~600mm/sec.
- Avoid the registration marks locating on the tracks of pinch rollers.

# 6. Maintenance

This chapter explains the basic maintenance (i.e. cleaning the cutting plotter) required for the cutting plotter. Except for the procedures mentioned below, all other maintenance must be performed by a qualified service technician.

## 6.1 Cleaning the Cutting Plotter

Cleaning the machine properly and regularly will ensure optimal performance out of your machine.

**Cleaning Precaution !**

- Unplug the cutting plotter before cleaning it in order to prevent electrical shock.
- Never use solvents, abrasive cleaners or strong detergents for cleaning. They may damage the surface of the cutting plotter and the moving parts.

### Recommended Methods:

- Gently wipe the cutting plotter surface with a lint-free cloth. If necessary, with a damp cloth immersed in water or alcohol. Dry and wipe any remaining residue off a soft, lint-free cloth.
- Wipe all dust and dirt from the tool carriage rails.
- Use a vacuum cleaner to empty any accumulated dirt and media residue beneath the pinch roller housing.
- Clean the platen, paper sensors and pinch rollers with a damp cloth immersed in water or alcohol, and dry with a soft, lint-free cloth.
- Wipe dust and dirt from the stand.

## 6.2 Cleaning the Grid Drum

1. Turn off the cutting plotter, and move the tool carriage away from the area needed to be cleaned.

2. Raise the pinch rollers and move them away from the grid drum for cleaning.

3. Use a bristle brush (a toothbrush is acceptable) to remove dust from the drum surface. Rotate the drum manually while cleaning. Refer to Figure 6-1.

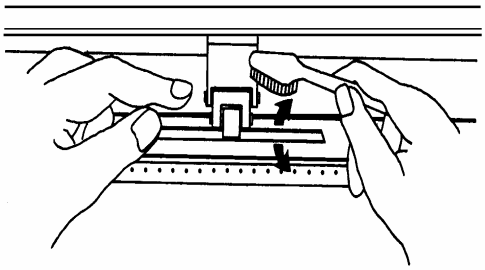


**Figure 6-1**

## 6.3 Cleaning the Pinch Rollers

1. If the pinch rollers require a thorough cleaning, use a lint-free cloth or cotton swab to wipe away the accumulated dust from the rubber portion of the pinch rollers. To prevent the pinch rollers from rotating while cleaning, use your finger to hold the pinch rollers to prevent them from rotation

2. To remove the deeply-embedded or persistent dust, use the lint-free cloth or cotton swab moistened with rubbing alcohol.

**Note:** The daily maintenance of your cutting plotter is very important. Be sure to clean up the grid drum and pinch rollers regularly for better cutting accuracy and output quality.

# 7. Trouble Shooting

This chapter is to help you correct some common problems you may come across. Prior to getting into the details of this chapter, please be sure that your application environment is compatible with the cutting plotter.

> **Note:**
> Before having your cutting plotter serviced, please make certain that the malfunction is in your cutting plotter, not the result of an interface problem or a malfunction in your computer or a software problem.

***Why is the cutting plotter not functioning?***

***Possible Causes:***

## 7.1 Non-Operational Problems

Check the following first:

- Does the AC power cord plug in properly?
- Does the AC power cord connected to the power connector properly?
- Does the power LED still illuminate?

**Solutions:**

If the LCM is able to display the message, the cutting plotter should be in a normal condition. Switch off the cutting plotter and turn it on again to see if the problem still existing.

If the LCM is not able to display any message, contact the technician from your dealer.

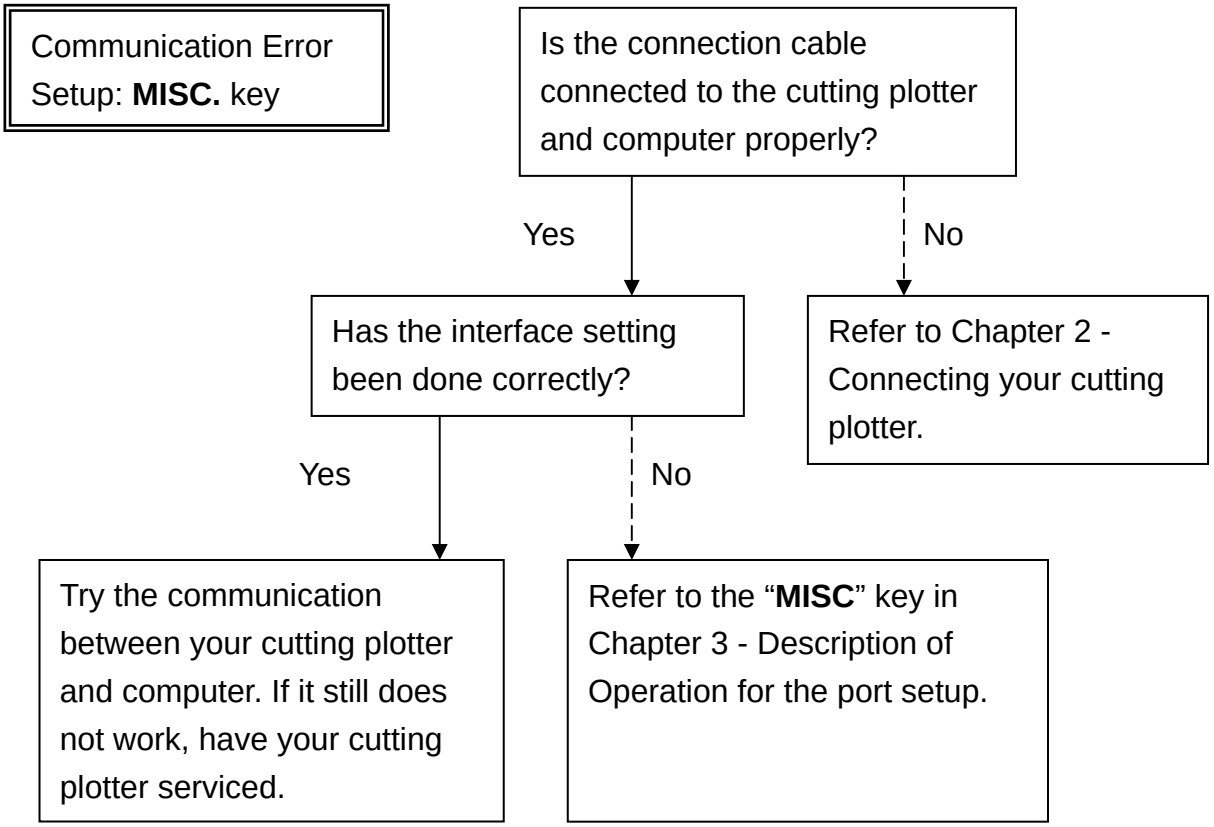
## 7.2 Operational Problems

Some mechanical problems or failure during operation will cause some problems. The error messages shown on the LCM present the problem first, and followed by recommended actions. If the problem still exists after the recommended actions have been done, have your cutting plotter serviced.

| | |
|---|---|
| **Error, Check Media Or Drum or X Motor** | This message indicates that there might be a problem on the **X axis**. Check if the drum is working well and if the media is well loaded. Correct the problem and re-power on to reboot system. |
| **Error, Check Media Or Y Motor** | This message indicates that there might be an obstruction to carriage relating to a problem on the **Y axis**. Correct the problem and re-power on to reboot system. |
| **Error, Check Carriage Sensor or VC Motor** | This message indicates that the blade up/down sensor malfunction. Re-power on to re-boot system. If the problem still exists, find a serviceman. |
| **Graph Was Clipped. Data In Buffer** | This message indicates that the cutting exceeds the cutting limit. Reload larger media or re-scale the plot to a smaller size; then press the key followed by the display of LCM to continue. |

## 7.3 Cutting Plotter/Computer Communication Problems

The messages showed below present problems in relation to cutting plotter/computer communication.



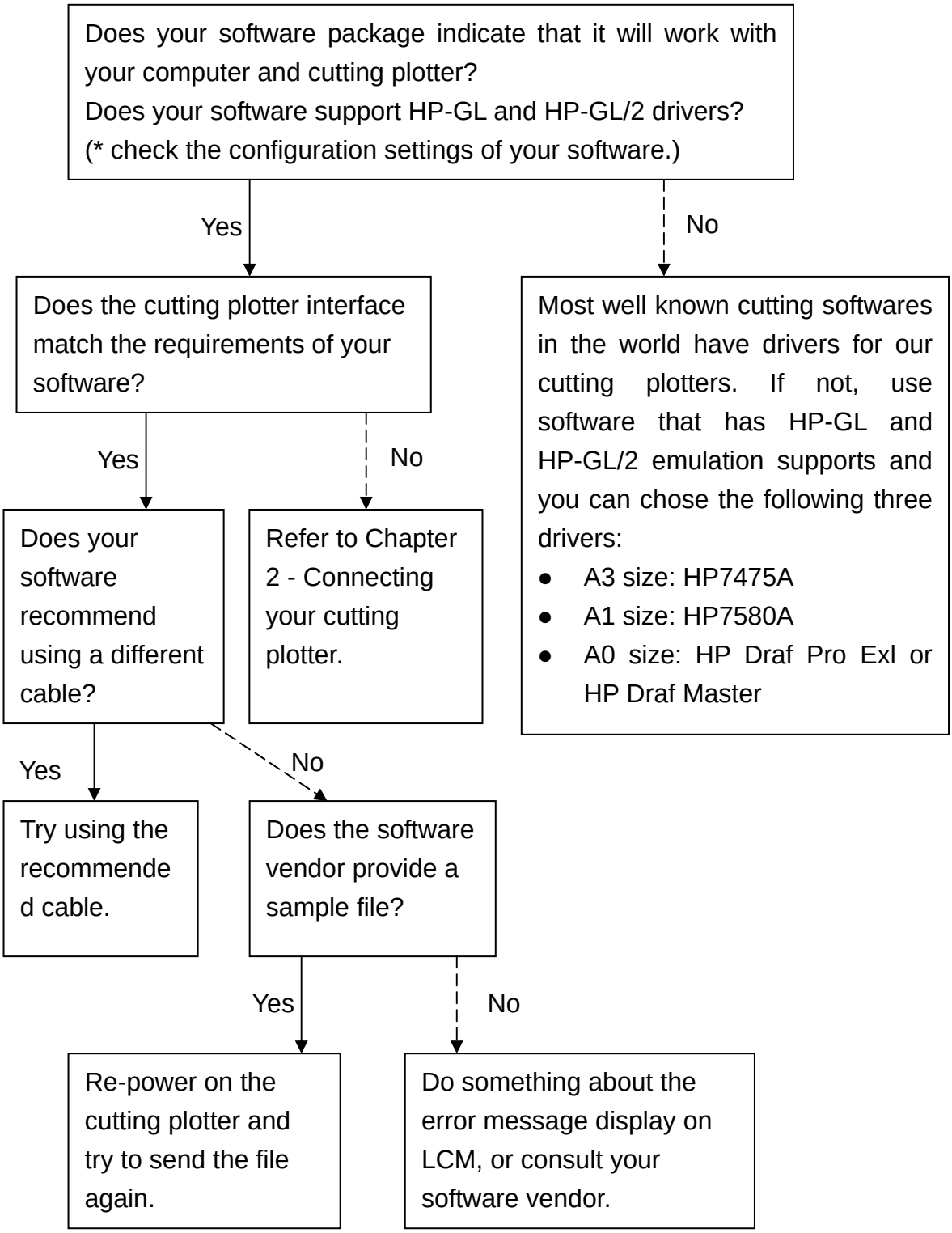

**Note:**
The computer also needs to set up compatible communication parameters to the cutting plotter set up.

HP-GL/2 Cmd. Error

If your cutting plotter can not recognize the HP-GL/2 or HP-GL commands, please check the HP-GL/2 or HP-GL commands applied to your cutting plotter are used properly.

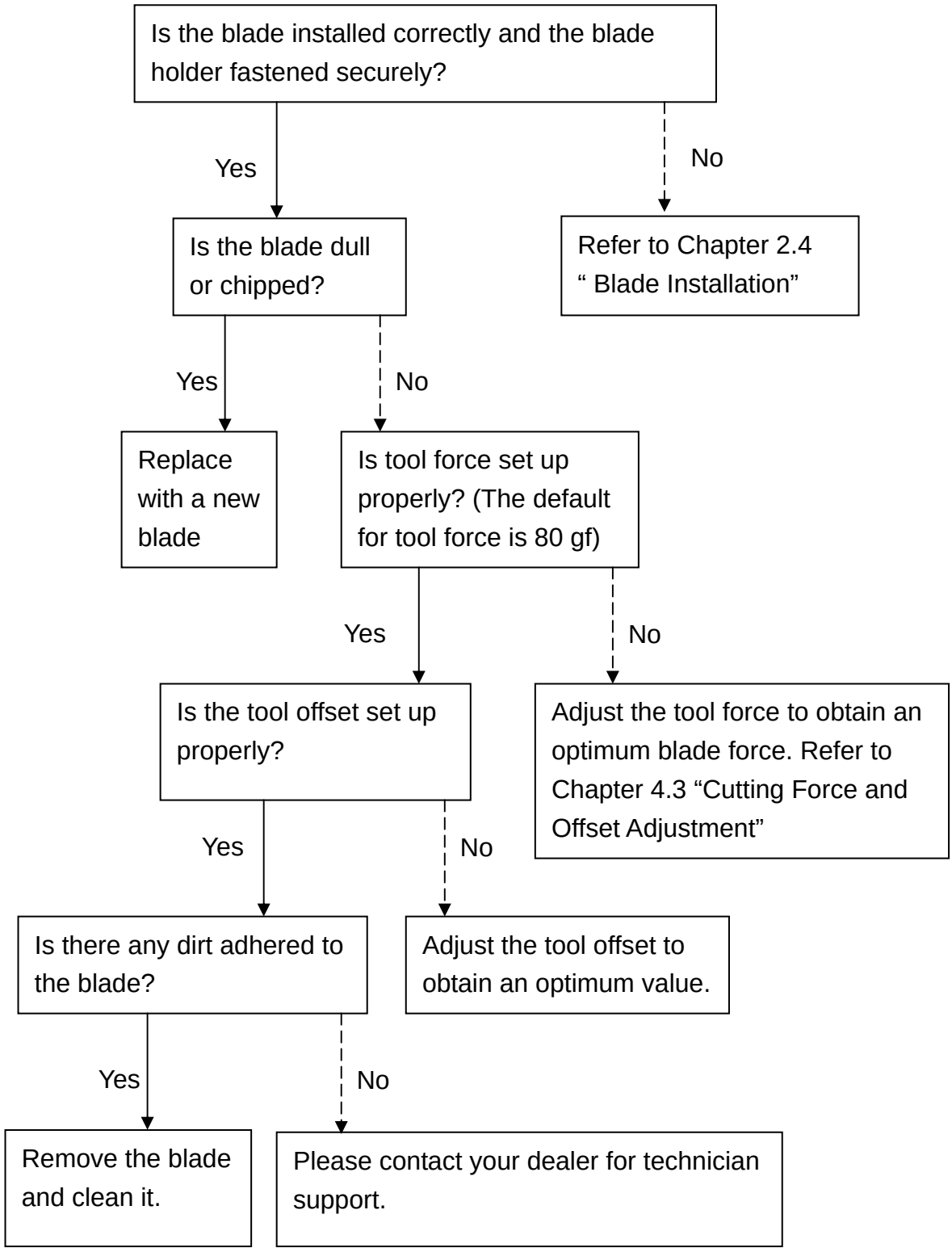
## 7.4 Software Problems

**Check the following first:**



## 7.5 Cutting Quality Problems

**Note:** The daily maintenance of your cutting plotter is very important. Be sure to clean up the grid drum and pinch rollers regularly for better cutting accuracy and output quality.



# Jaguar IV Specification

| Model Number | | J4-61 | J4-101S | J4-132S | J4-183S |
|---|---|---|---|---|---|
| Operational Method | | Roller-Type | | | |
| Max. Cutting Width | | 610mm (24in) | 1016mm (40in) | 1320mm (52in) | 1830mm(72in) |
| Max. Cutting Length | | 50m (164ft) | | | |
| Max. Media Loading Width | | 770mm (30.3in) | 1270mm(50in) | 1594mm(62.7in) | 1900mm(74.8in) |
| Min. Media Loading Width | | 50mm (1.97in) | | | 300mm (11.8in) |
| Number of Pinch Rollers | | 3 | 4 | | 6 |
| Acceptable Material Thickness | | 0.8mm (0.03in) | | | |
| Drive Motor | | DC Servo Control | | | |
| Cutting Force | | 0~600 g | | | |
| Max. Cutting Speed | | 1530 mm/sec (60ips / Diagonal) | | | |
| Acceleration | | 4.2 G (gravity) | | | |
| Offset | | 0~1.0 mm (with an increase of 0.025mm) | | | |
| Memory Buffer | | 4 MB | | | |
| Interfaces | | USB1.1, Parallel and Serial (RS-232C) | | | |
| Type of Command | | HP-GL, HP-GL/2 | | | |
| Mechanical Resolution | | 0.00625mm | | | |
| Software Resolution | | 0.025 mm | | | |
| Repeatability | | ±0.1mm | | | |
| Curve & Arc Smoothing | | Yes | | | |
| Configurable Origin | | Yes | | | |
| Test Cut capability | | Yes | | | |
| Tangential- emulation | | Yes | | | |
| Repeat | | Yes | | | |
| Copy | | Yes | | | |
| Pouncing | | Yes | | | |
| Control Panel | | LCD (20 digits x 2 lines), 14 Keys, 1 Power LED | | | |
| Power Supply | | AC 100-240V, 50~60 Hz (auto switching) | | | |
| Power Consumption | | Max. 110watts | | | |
| Dimension (HxWxD) mm | | 414 * 930 * 490 | 1166 * 1430 * 667 | 1166 * 1754 * 667 | 750 * 2170 * 1160 |
| (HxWxD) in | | 16.3 * 36.6 * 19.2 | 45.9 * 56.0 * 26.3 | 45.9 * 69.1 * 26.3 | 29.5 * 85.4 * 45.7 |
| Net Weight | | 37.2 kg | 53.3 kg | 61 kg | 105 kg |
| Stand | | Optional | Standard | | |
| Accu-Aligning System | | Standard AAS II | | | |
| Media Basket | | Optional | | | |
| Operation Environment | Temperature | 15°C~30°C / 60°F~86°F | | | |
| | Humidity | 25% ~ 75% | | | |

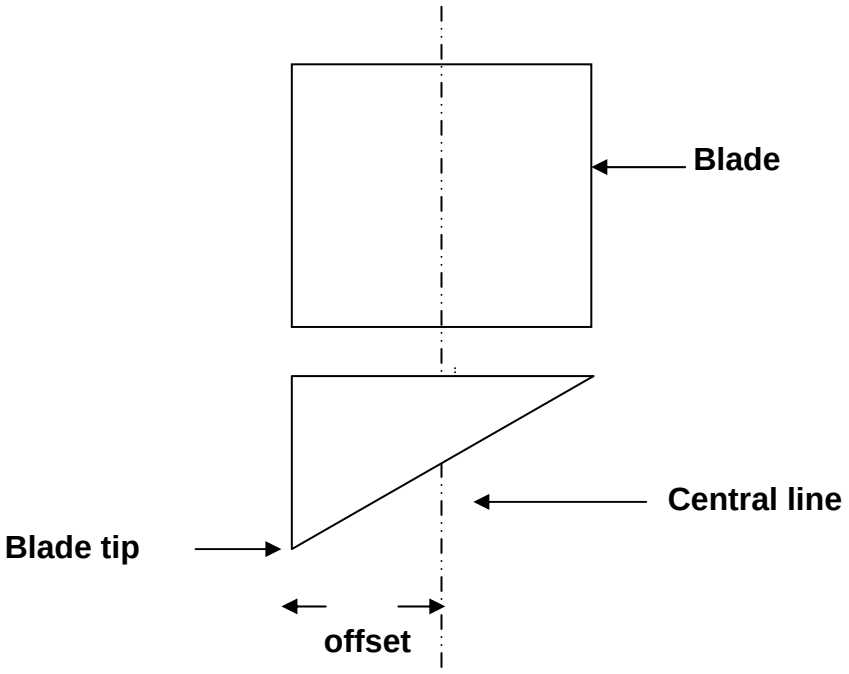
- Compatible with Windows 2000/XP/7.
- The specification and data sheet may vary with different materials used. In order to obtain the best output quality, please maintain the machine regularly and properly.
- GCC reserves the right to change the specifications at any time without notice.

# Blade Specification

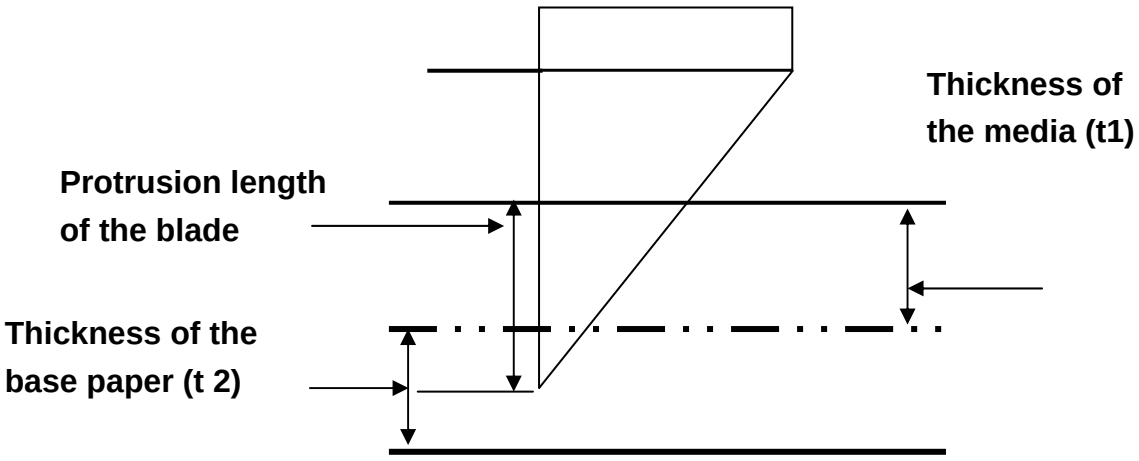
| | |
|---|---|
| 20200159G | For cutting thick fluorescent and reflective vinyl. Also for cutting detailed work in standard vinyl. |
| | The blade is 45° with **Red Cap**(5-unit package), 0.25 mm offset |
| | |
| 265012020G | For cutting reflective vinyl, cardboard, sandblast, flock, and stencil sharp edge. |
| | The blade is 60° with **Green Cap**, 0.50 mm blade offset |
| | |
| 26500059G | For cutting thin sandblast mask and stencil with friction feed or sprocket feed machine. |
| | The blade is 60° with **Blue Cap**, 0.25 mm blade offset |
| | |
| 26500060G | For Cutting small text and fine detail. Sharp blade with smallest offset. |
| | The blade is 0.175 mm blade offset with **Black Cap** |
| | |

# About the Tool

A generic term referring to the blade that cuts the sheet, the pen that does plotting, and the LED bombsight (option) used for pointing to the reference point.
OFFSET is the distance that the blade tip is displaced from the centerline of the blade.




## Protrusion Length of the Blade




Length of protrusion = t1 + t 2/ 2, but for your convenience you may just make it about 0.3mm ~ 0.5mm beyond the blade holder tip.

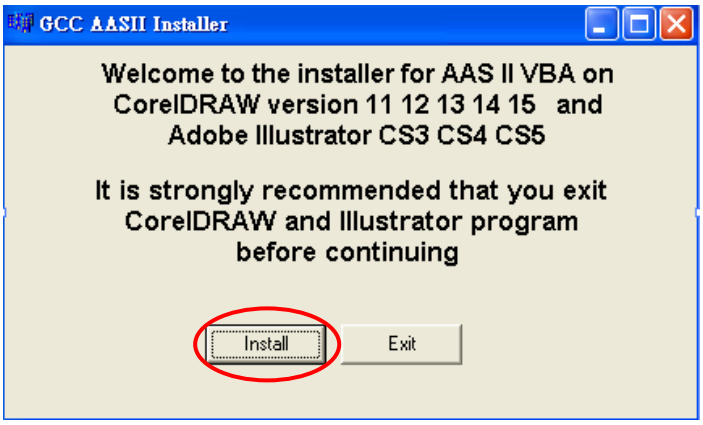
# CorelDRAW Plug-In Instruction

AASII VBA Installer is applicable for CorelDRAW Version 11, 12, 13, 14, 15

## Installation

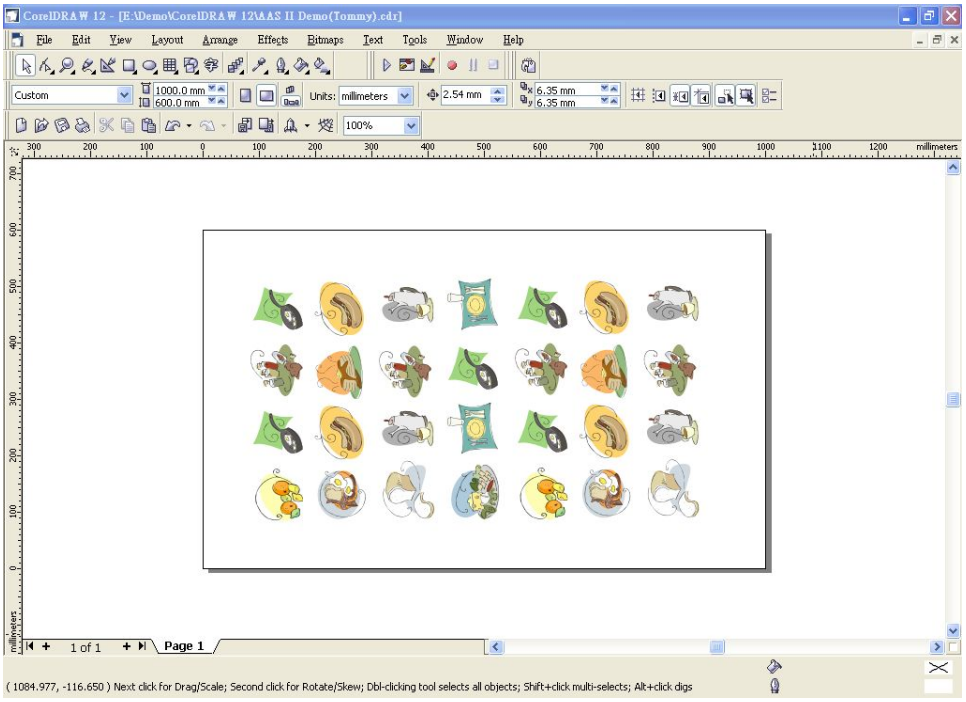
1. Check the “AAS CorelDraw Installer” folder in Jaguar IV Installation CD, and double click the “AASIIVBAInstaller.exe” file to run the installation program.

2. Press the “Install” button to begin installing GCC AASII CorelDRAW VBA.

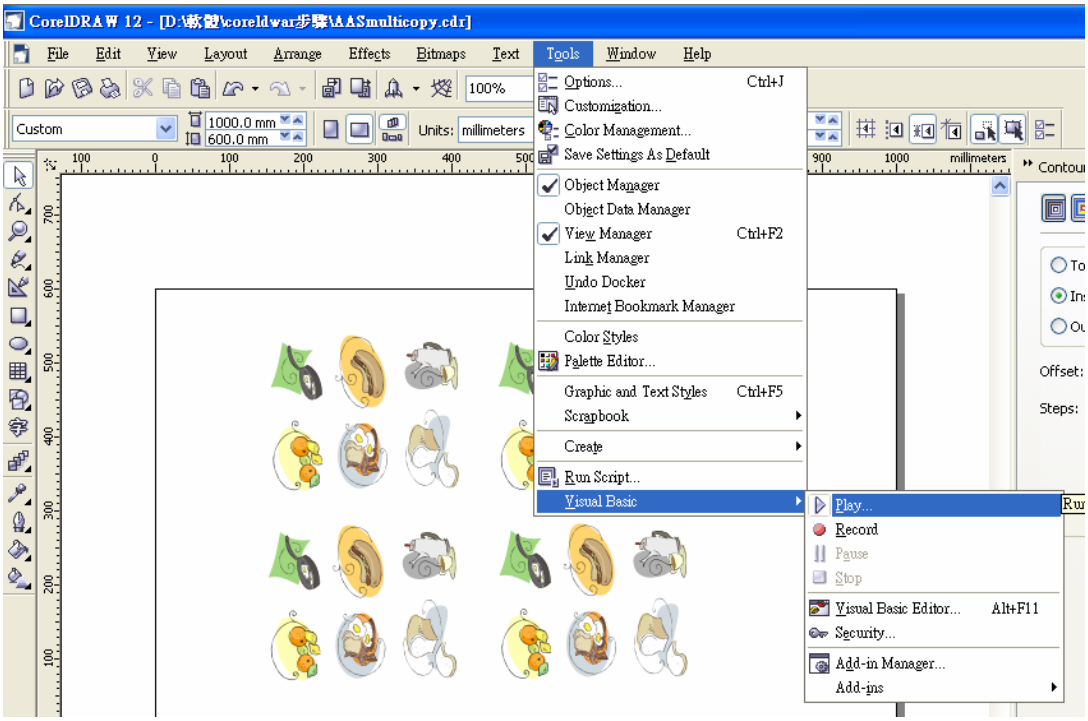


## User Instructions

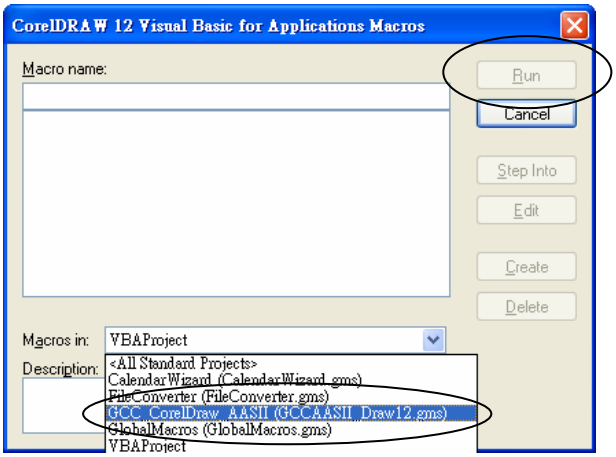
1. Run CorelDRAW to edit your graphics and select all images at once when you wish to plot.



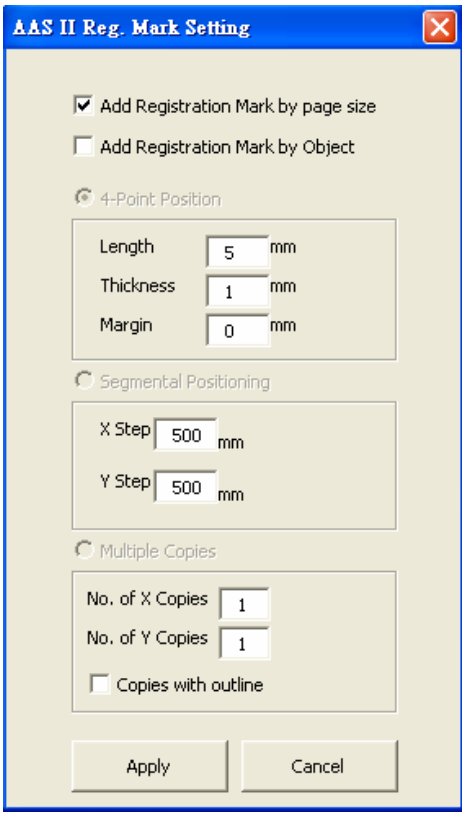

2. Select “Tools→Visual Basic→Play”.



The Visual Basic for Applications Marcos window will pop up. Select GCC_CorelDraw_AASII (GCCAASII_Draw12.gms) under the “Macros in” manual, and press “Run”.




3. Click on “Apply” and select whether you would like to add the registration marks by page size or by object.

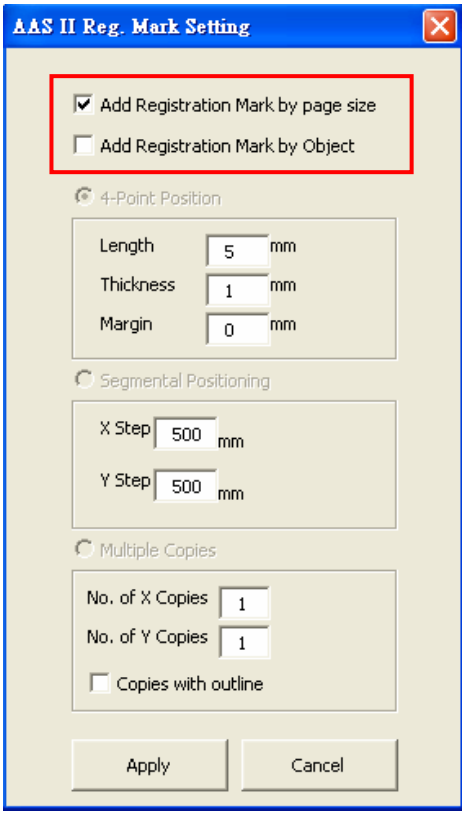



Note: “Add Registration Mark by Object” will be the default selection if you click on the image whereas “Add Registration Mark by page size” will be the default one when the blank area on the page is clicked.

4. Now you can print out the image file with registration marks.

## Add Registration Mark by page size

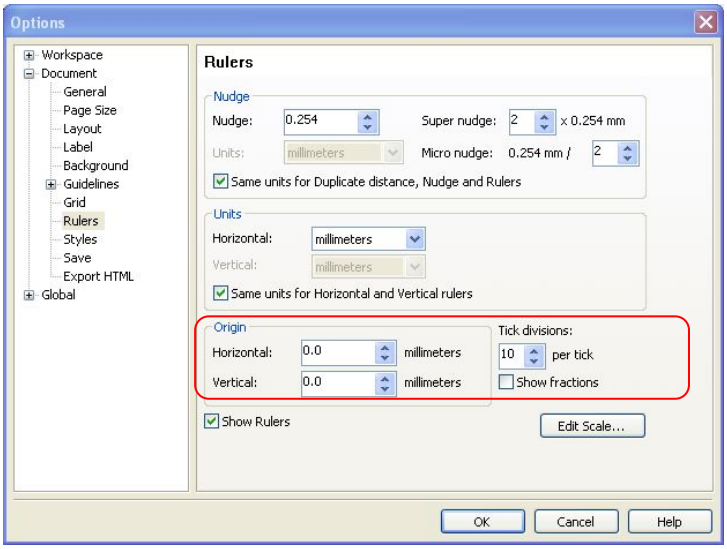
If you tick “Add Registration Mark by page size” as shown in the figure below and click “Apply”, your registration marks will be created automatically.



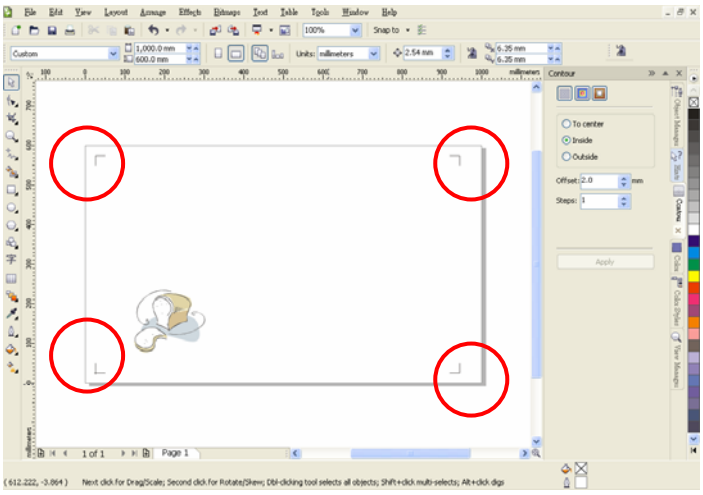

Note:

1. The length setting will be in the range of 5-25mm according to your page size.

2. Please DO NOT make any changes to the “Origin” section when you choose to add registration marks by page size as indicated below otherwise the position of the marks will be changed.

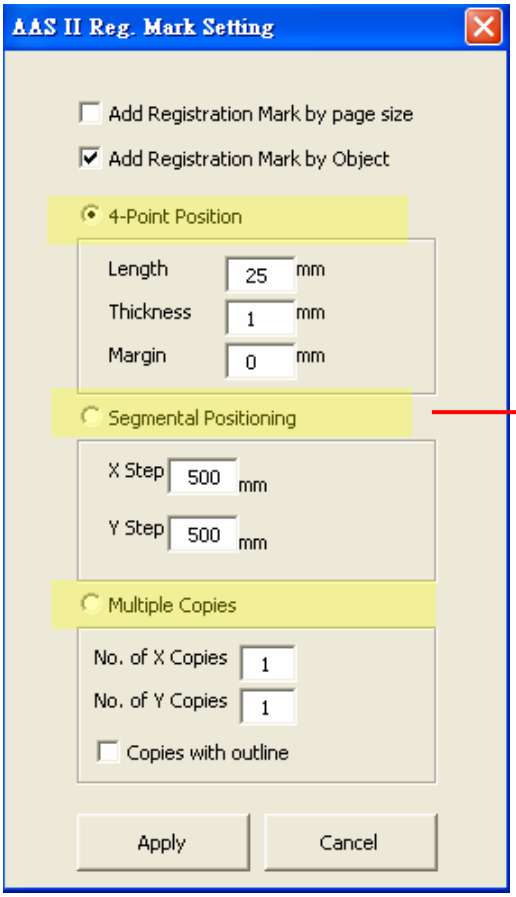



The system will create the 4 marks on the 4 corners of the page as shown in the picture below wherever you move your image.



## Add Registration Mark by Object

If you tick “Add Registration Mark by Object”, you will be offered three options of registration marks as shown below.




**4-Point Positioning**

- Length: The length of marks
  → Range: 5mm~50mm
  → Optimized Setting: 25mm
- Thickness: The line thickness of marks
  → Range: 1mm~2mm
  → Optimized Setting: 1mm
- Margin: The distance between marks and images
  → Range: 0mm~50mm
  → Optimized Setting: 5mm

**Segmental Positioning**

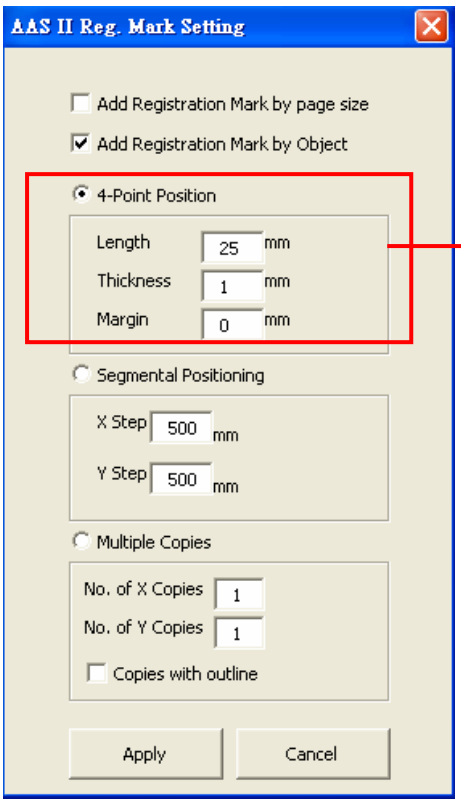
- X Step: The distance of intermediate position on the X axis
- Y Step: The distance of intermediate position on the Y axis
  → Range: 200mm~600mm
  → Optimized Setting: Less than 500mm

**Multiple Copies**

- No. of X Copies: The numbers of copies on X axis
- No. of Y Copies: The numbers of copies on Y axis
  → Range: 1~50. (The more copies you make, the more time is needed for data transmission.)
  → Numbers of X Copies * Numbers of Y Copies = The total amount of image copies
- Copies with outline： To show outlines of image graphics

Note: The values entered in the “4-Point Positioning” section (length, thickness and margin) will still be applied when you tick “Segmental Positioning” or “Multiple Copies”.

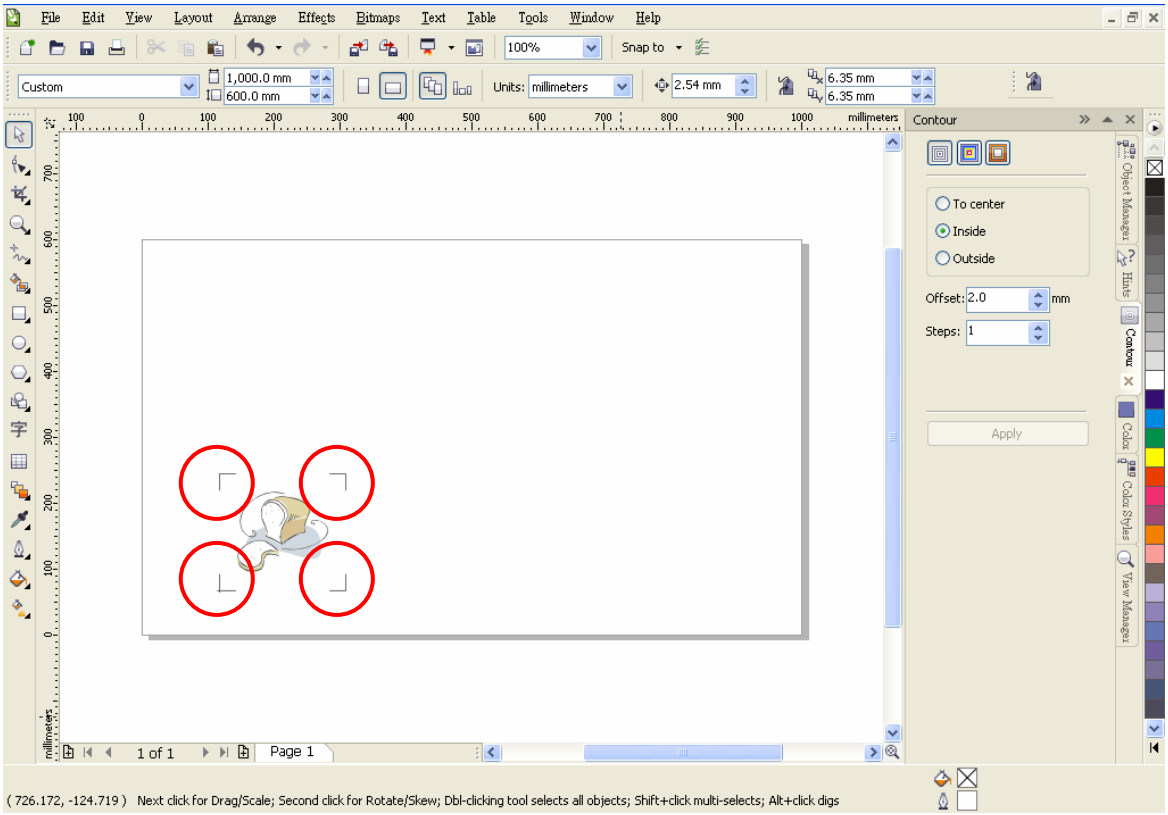
## 4-Point Positioning




**4-Point Positioning**

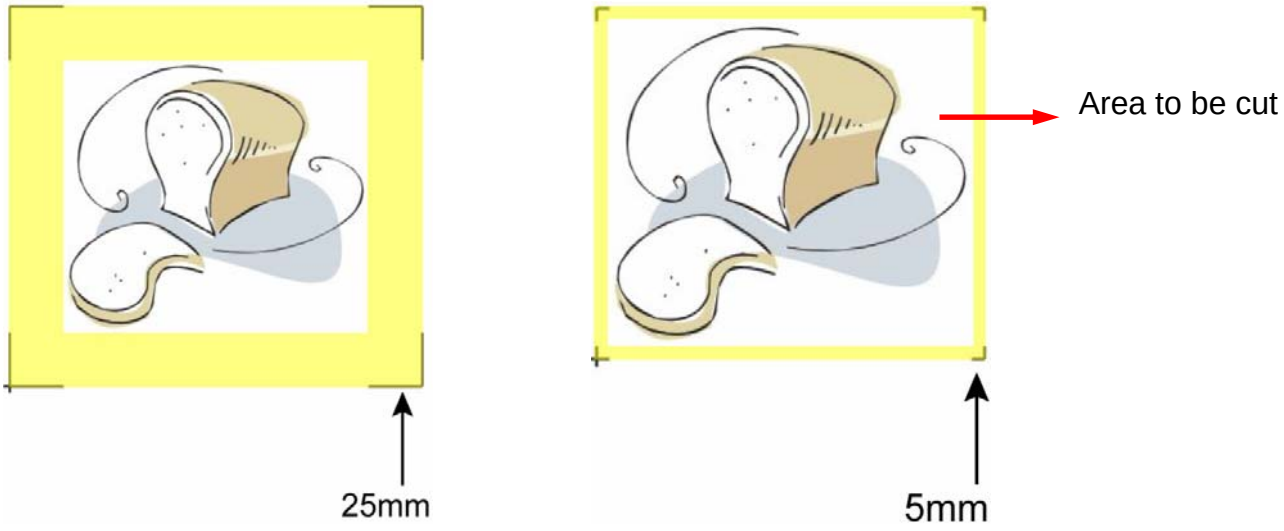
- Length: The length of marks
  - → Range: 5mm~50mm
  - → Optimized Setting: 25mm
- Thickness: The line thickness of marks
  - → Range: 1mm~2mm
  - → Optimized Setting: 1mm
- Margin: The distance between marks and images
  - → Range: 0mm~50mm
  - → Optimized Setting: 5mm

The system will create the 4 marks as shown in the picture below.



Note:

1. To save your materials, in addition to amending object margins, you can also adjust the length of the registration marks (5mm minimum) when you apply 4-Point Positioning (see table 1 for suggestions based on different material sizes). The smaller the size is, the smaller the distance between the object and the registration marks is (see the figures below).




| Page size (unit: inch) | Suggested mark length (unit: mm) |
|---|---|
| A6 (4.13 × 5.83) | 5 |
| A5 (5.83 × 8.27) | 8 |
| A4 (8.27 × 11.69) | 11 |
| A3 (11.69 × 16.54) | 16 |
| A2 (16.54 × 23.39) | 23 |
| A1 (23.39 × 33.11) and above | 25* |

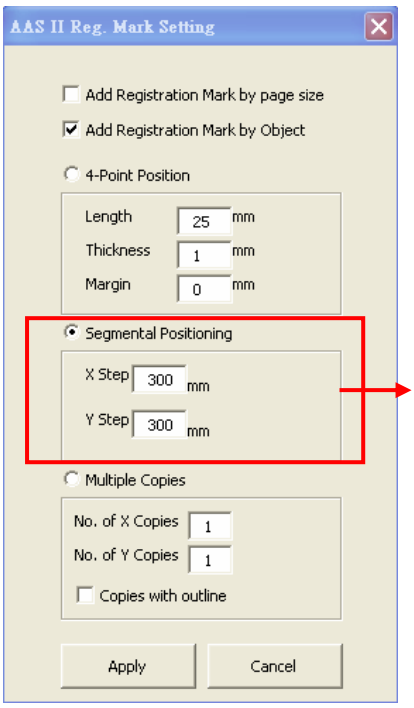
Table 1

*25mm is the suggested value for the registration mark length

2. The size of the registration marks would affect the accuracy of registration mark detection so please make sure the amount you enter is reasonable.

3. If you change the paper size, you will have to reset the registration marks otherwise the previous setting will be applied.

## Segmental Positioning

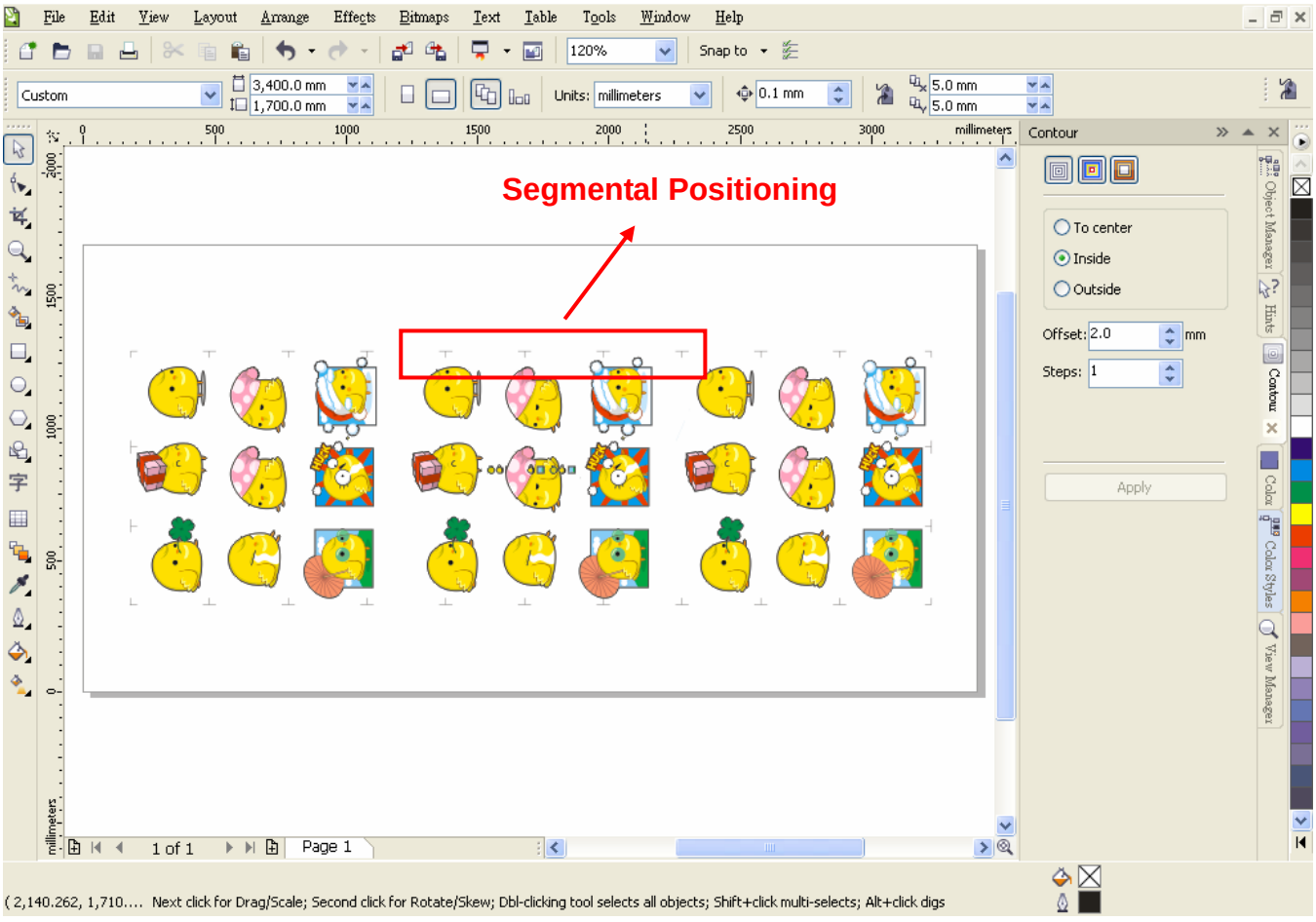



For precise cutting quality, it is suggested to select “Segmental Positioning” when you are working on an extra long or large-sized image to increase cutting accuracy.

**Segmental Positioning**

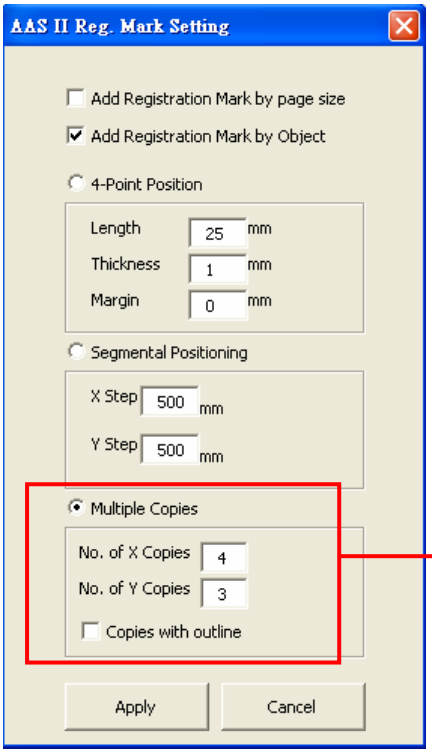
- X Step: The distance of intermediate position on the X axis
- Y Step: The distance of intermediate position on the Y axis
  → Range: 200mm~600mm
  → Optimized Setting: Less than 500mm

The system will create the as shown in the picture below



## Multiple Copies

It is suggested to select “Multiple Copies” when you would like to make several copies of one image on your material to increase cutting accuracy.



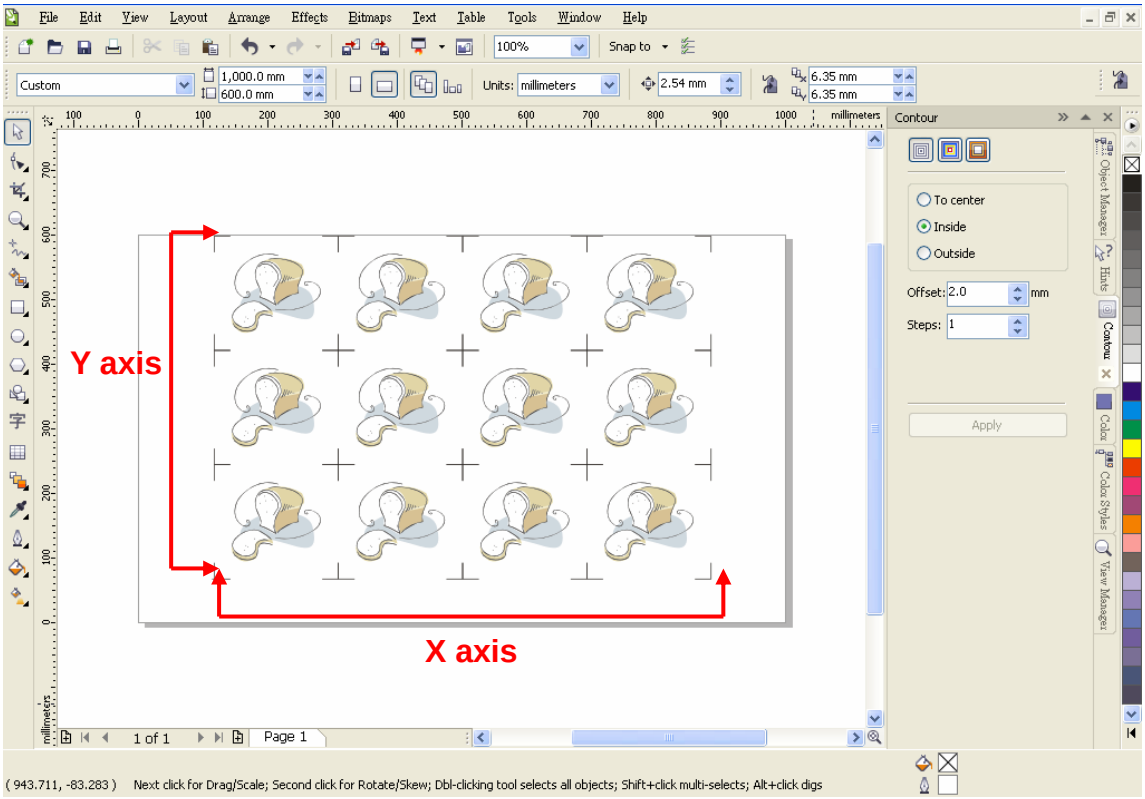

**Multiple Copies**

- No. of X Copies: The numbers of copies on X axis
- No. of Y Copies: The numbers of copies on Y axis

  → Range: 1~50. (The more copies you make, the more time is needed for data transmission.)

  → Numbers of X Copies * Numbers of Y Copies = The total amount of image copies
- Copies with outline：To show outlines of image graphics

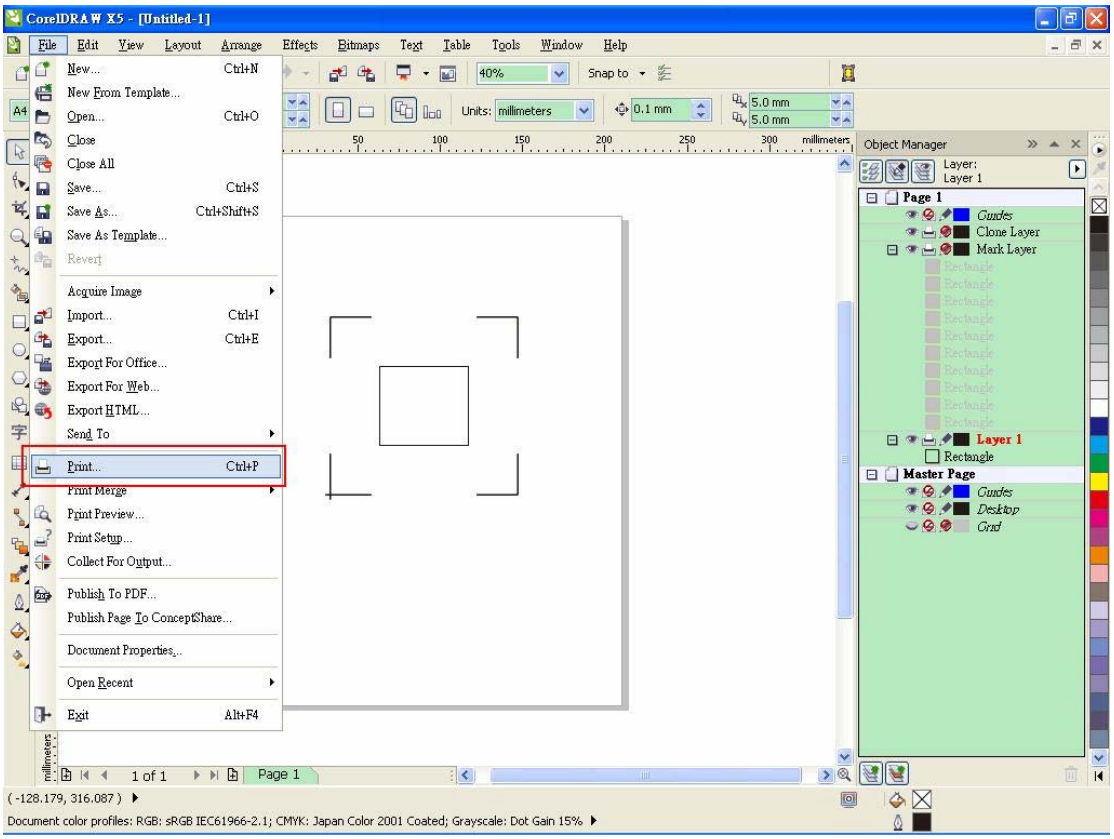
The system will create the as shown in the picture below.



## Contour cutting through CorelDraw

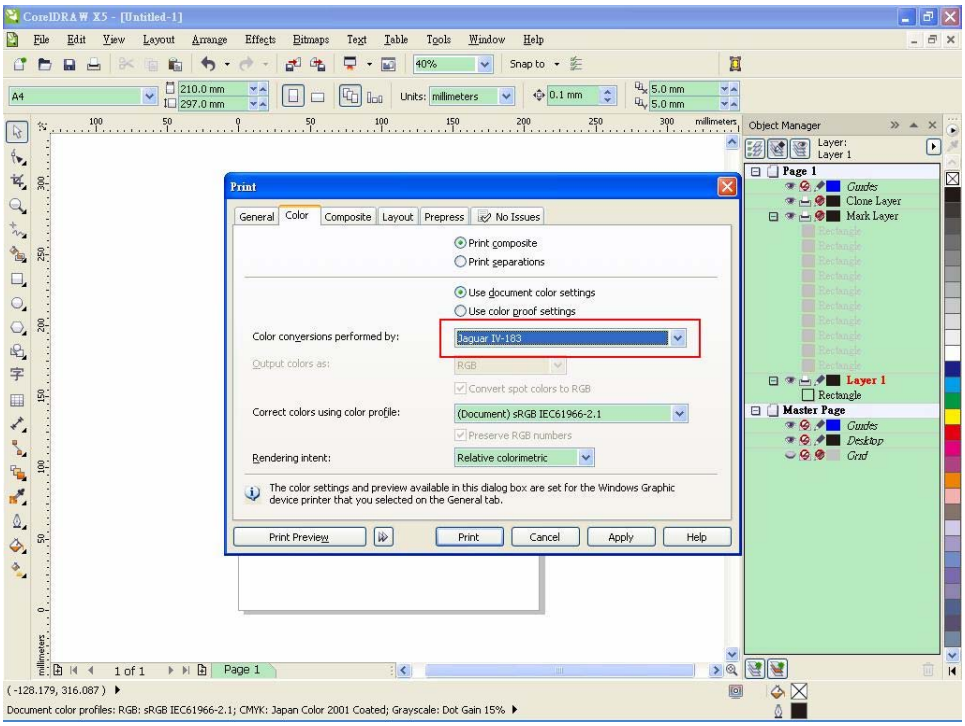
Step 1: Position the paper with registration marks printed by your printer on the GCC cutter.

Step 2: Select “Files→Print”.

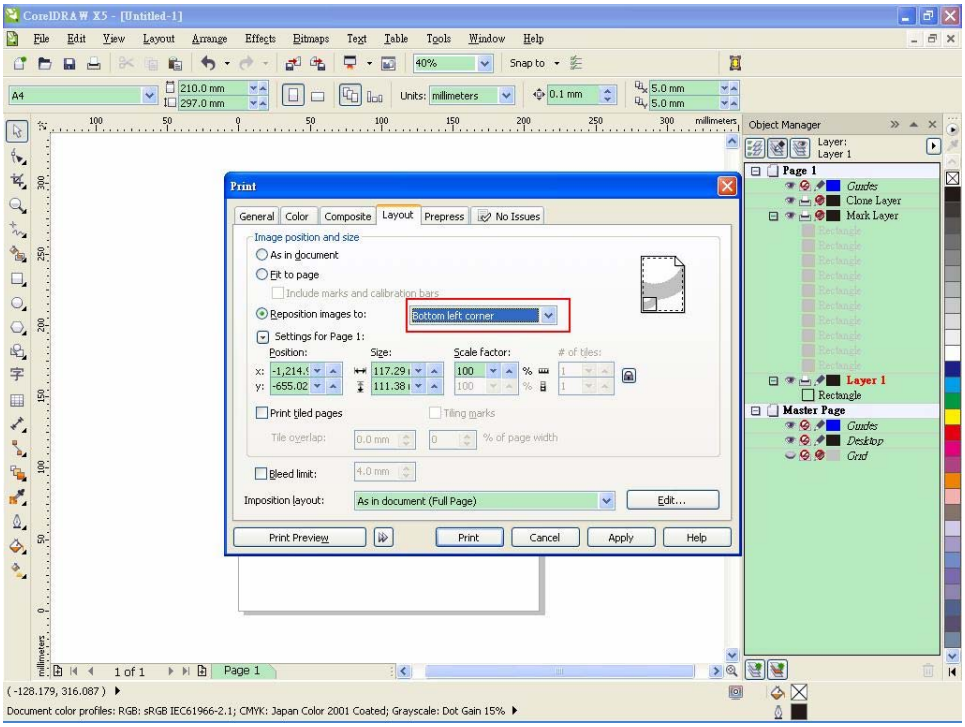



Please note that if you use CorelDraw X5, you must follow the steps below.

Click the “color” page and go to the “Color conversions performed by:” and then select the model name of you cutter.



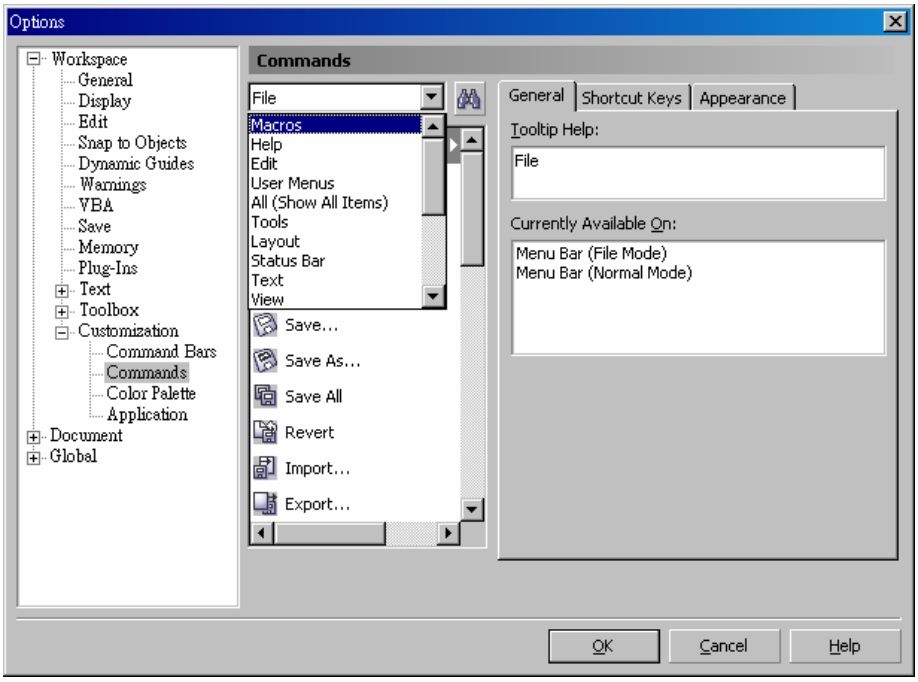

Step 2: Go to the “Layout” page and select Bottom left corner at “Reposition images to”.




Step 3: Click “Print”.

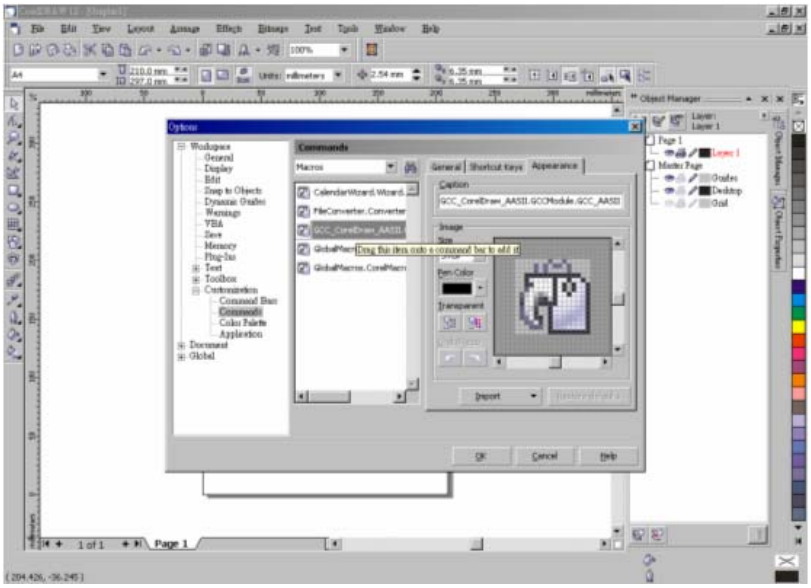
## You can also add a Hot Icon for the AAS II Plug-in

Step 1: Select “Tools→Customization→Commands→Macros”.




Step 2: Choose【GCC_CorelDraw_AASII.GCCModule.GCC_AASII】and drag it to the "commands" bar.

Step 3: If you want to have a different icon, select "Tools→Customization→Commands→ Appearance" to import a graphics for use as the icon. Choose an icon and press OK to complete this setting.



# SignPal 8.5 Instruction

The new SignPal 8.5 Software is Windows Vista compatible and the SignPal Expert above versions support the AAS II contour cutting function of Jaguar IV and Puma III cutting plotters.

Different to the previous SignPal 7.6 version, the SignPal 8.5 doesn't come with a keypro dongle, which is replaced by a softkey to simplify the installation procedure. However, please note that the system must be connected to the Internet when launching the SignPal 8.5 software for the first time with softkey. Internet access is required for online validation during the initial installation and for future online validations every 30 days. If the softkey is unable to connect to the Internet within a 30 day period, you will receive a message alerting you that you can only continue working with the software for another 10 days without connecting to the Internet.

For users without Internet or broadband connection, please contact your local distributor to purchase hard keys (keypro dongle) and provide them your softkey ID & password for replacement. Your original softkey ID & password will be invalid after replacement, and the new hard key ID & password can work only with the dongle inserted to your computer. Please note that the softkey and hard key has different user ID number as following:
Soft key IDs are 9xxxxx
Hard key IDs are 5xxxxx

**SignPal 8.5 Instruction Index:**

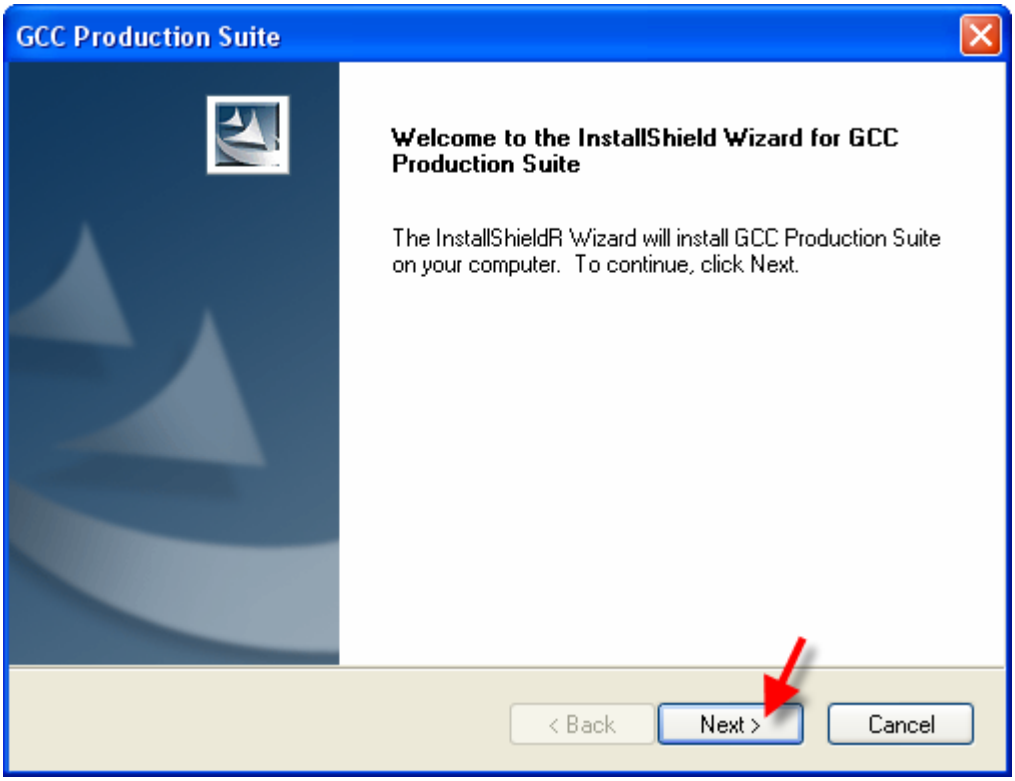
[1] Installing the SignPal 8.5 software…….. P.01
[2] Set up your GCC Cutter on Production Manager……. P.10
-- SignPal AAS II Quick Start…… P.13
[3] Transferring a Software License Using Softkey…… P.18
[4] SignPal 8.5 Feature Lists…….. P.20

## [1] Installing the SignPal 8.5 software

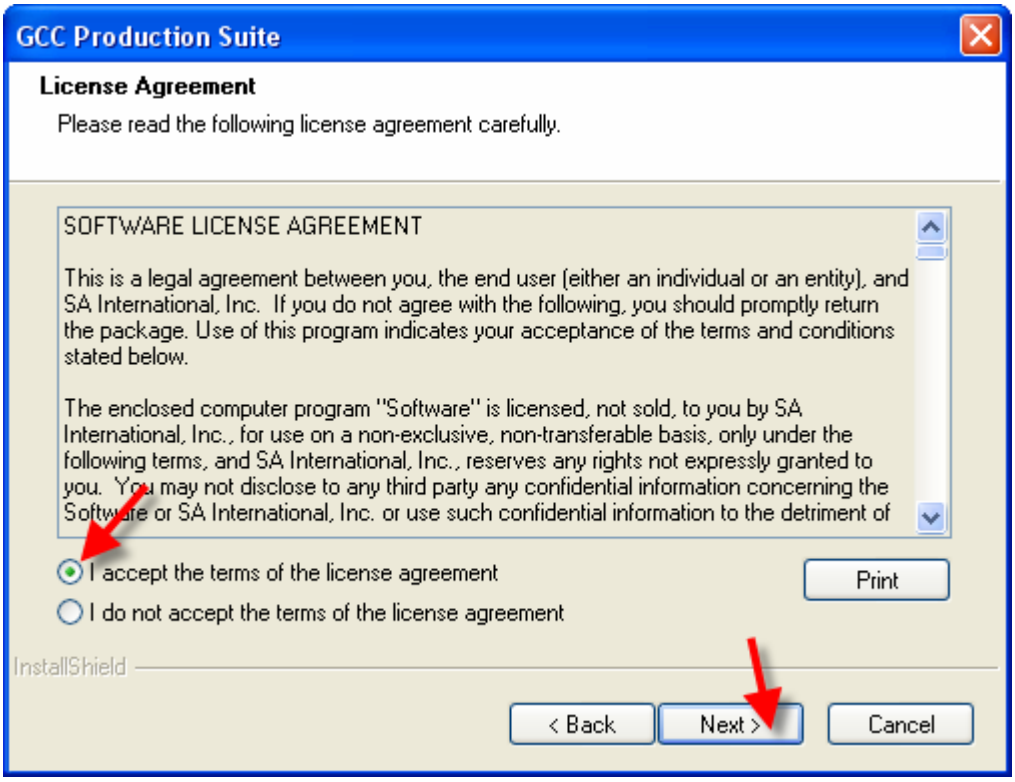
To install the software, you must have Administrator privileges. To use the software, you must have Administrator or Power User privileges. See your Windows user guide for more information.

1. Uninstall any previous version of the software.
2. Insert the Installation DVD.
3. Select a language and click **OK**.

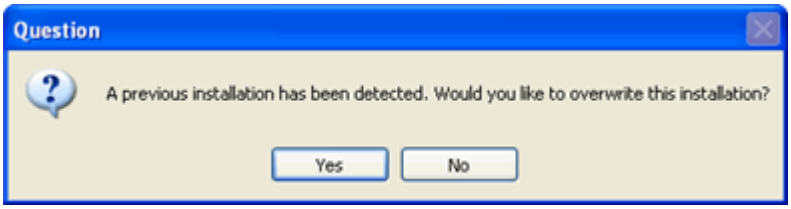
4. Click **Next**.




5. Read the Software License Agreement and select **I accept the terms of the license agreement** and click **Next** to accept.

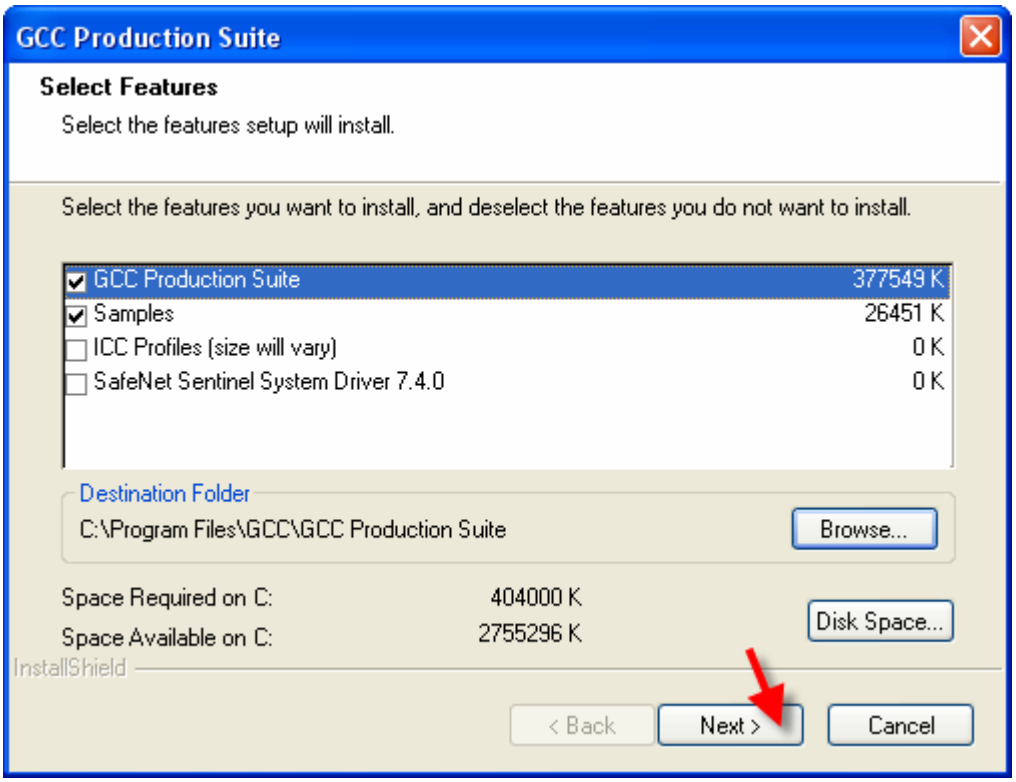


6. If you did not have any previous versions of the software installed, skip to the next step. If you still have a previous version of the software installed, you will be prompted to overwrite the existing installation. Click **Yes** to overwrite any previous installation of the software.




7. Select the features of the software that you want to install and click **Next**:

- Check **GCC Production Suite** to install the software.
- Check **Samples** to install sample files.
- Check **SafeNet Sentinel System Driver** to install the software driver for this key. If you do not use this type of key, you do not need to install this driver.

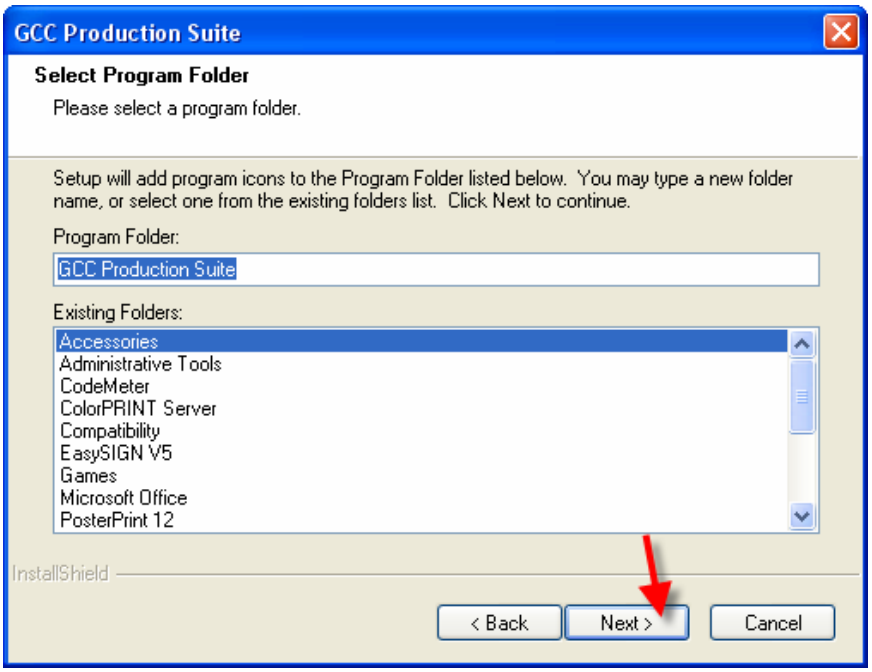


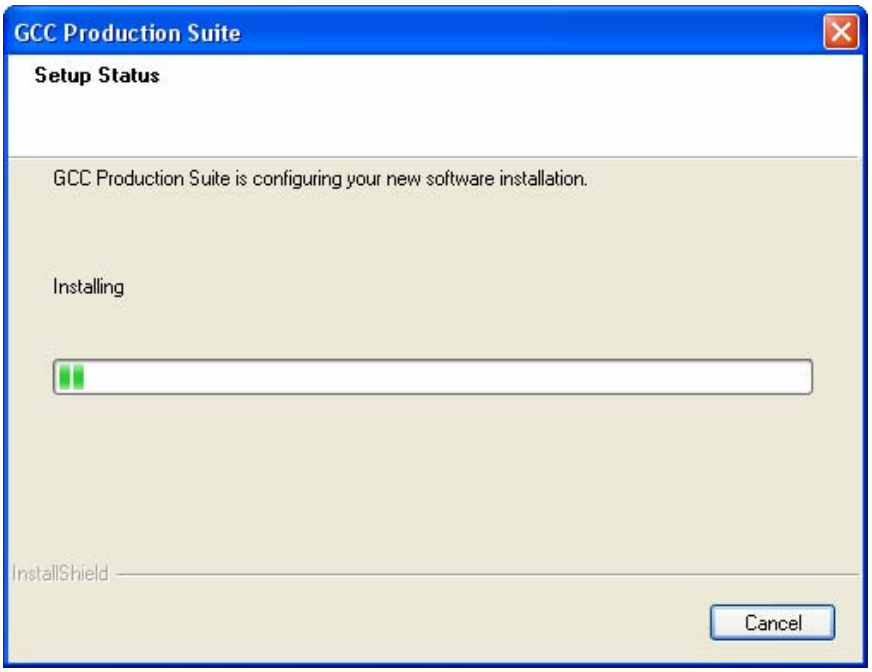

A. To change the default destination folder, click **Browse** and choose a new destination folder.
B. To check that the drive you are installing to has enough space for the installation:
    a. Click **Disk Space**.

b. From the drop-down menu, select the drive you want to install to, and verify that it has enough space for the installation.
c. Click **OK**. The installation drive changes to the selected drive when you click **OK**.

8. Select the Program folder where the shortcut for the software will appear. A new folder is automatically created for the product.

9. Click **Next** to install the software.



10. Once the installer is finished installing, the **Install Manager** opens. The Install Manager allows you to run a demo version of any available products, or to enter a password to access the software and any optional features.

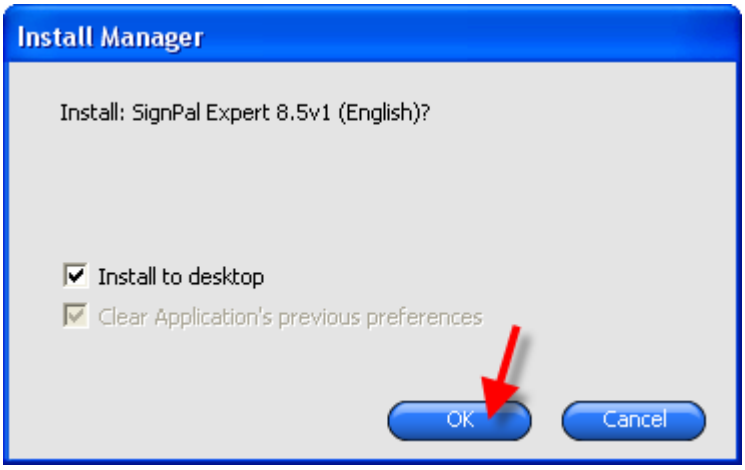
11. Do one of the following:

- Check **Run in demo mode** to run a demo version of any available products in any available language.
- Enter a Password, and then select a product from the **Product** list and a language from the **Language** list. Use the **Add** button to enter any additional passwords in the Optional Password section to unlock optional features.

**Password** This is your main application password for the software.

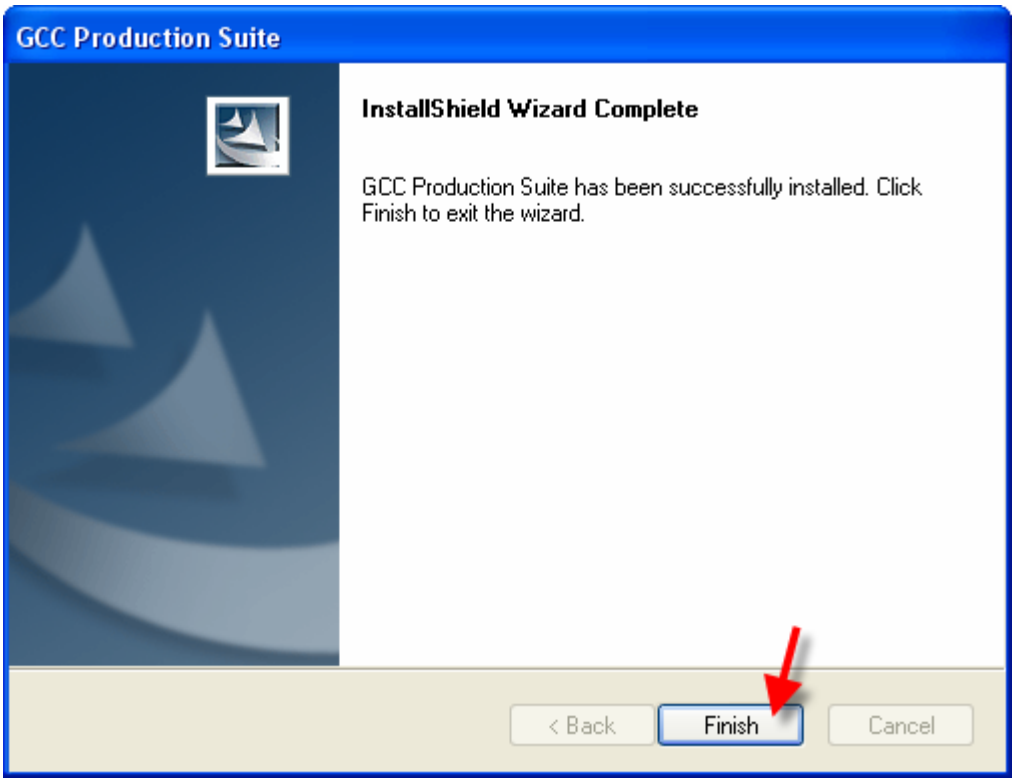
**Optional Password** If you purchased additional options, you may enter the option passwords in this field to upgrade your software.

12. Click **Done**.



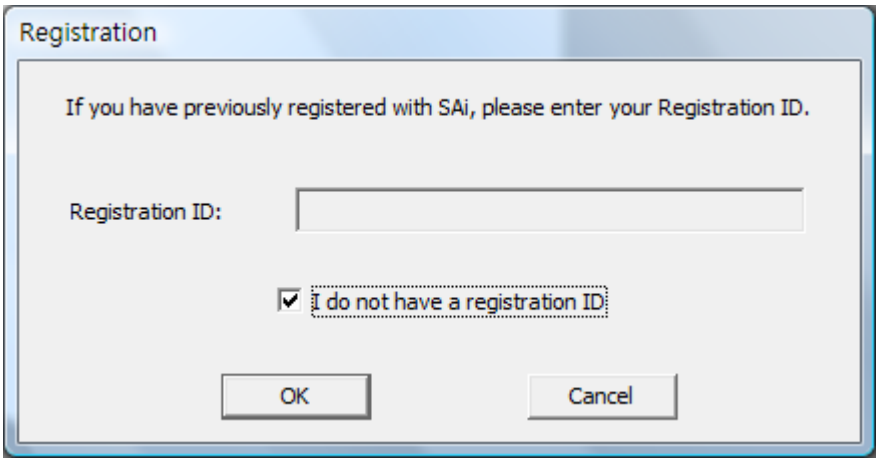

13. Check which icons and preferences you want to install:

- Check **Install to desktop** to install a shortcut for the software on the desktop.
- Check **Install to startup items** to install a shortcut for the software in the Startup folder of the Start menu. If this is done, each time the computer starts up, the software will automatically start up and minimize itself, displaying an icon in the system tray of the Windows system tray.
- Check **Clear Application's previous preferences** to clear the preferences or clear the check box to retain old preferences.
- Click **OK**.

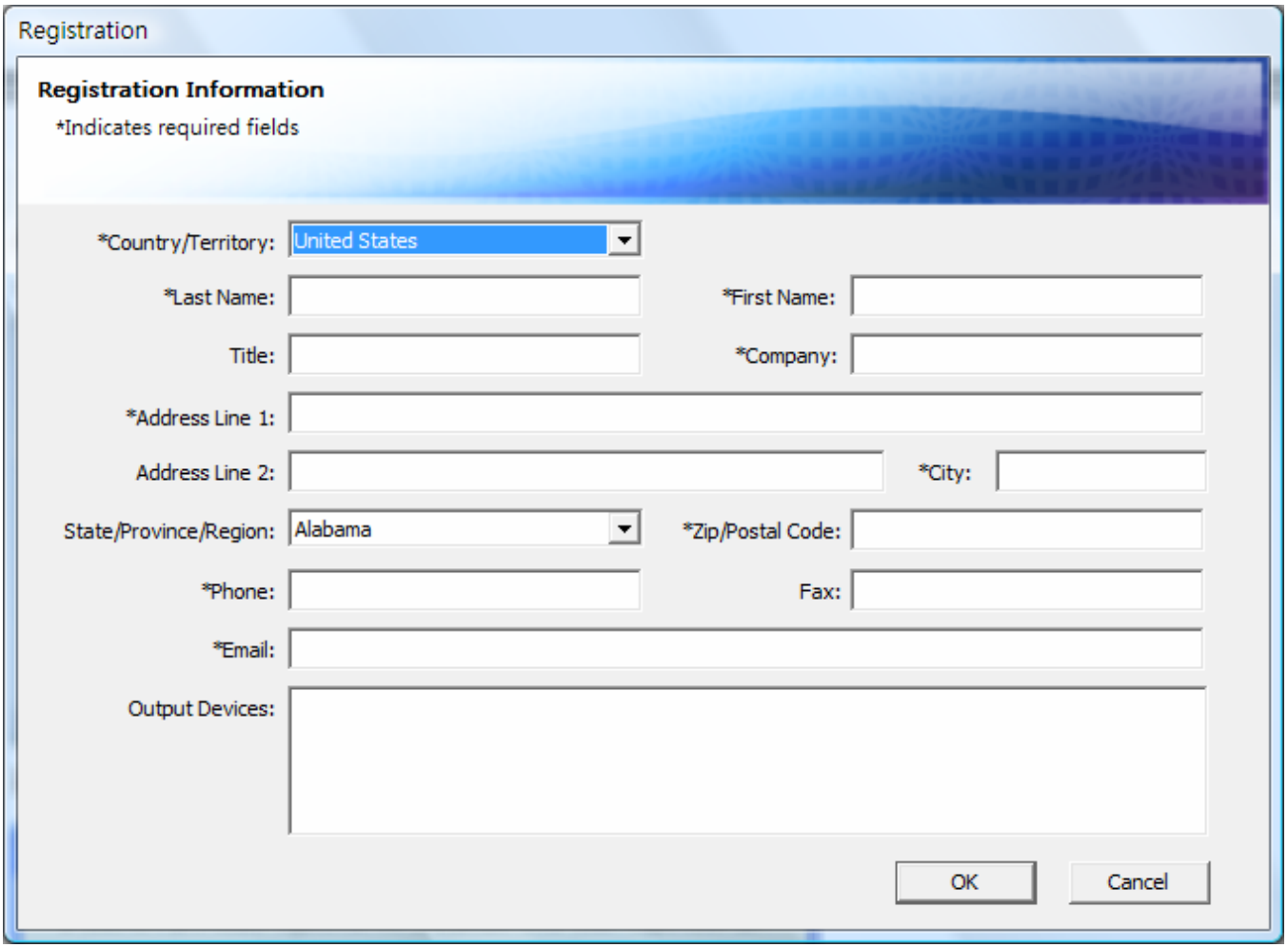


14. Open SignPal 8.5v1

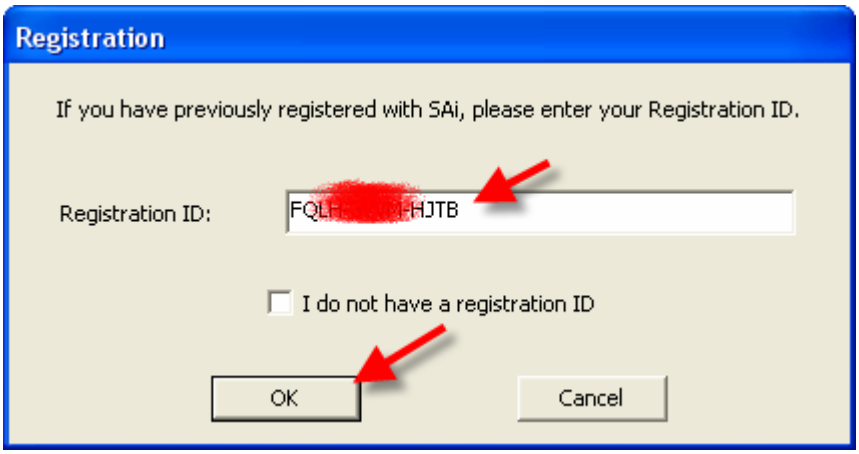
15. As you have not registered before, please check on the box at bottom to register a new account.




16. Input your personal information to complete the online registration.

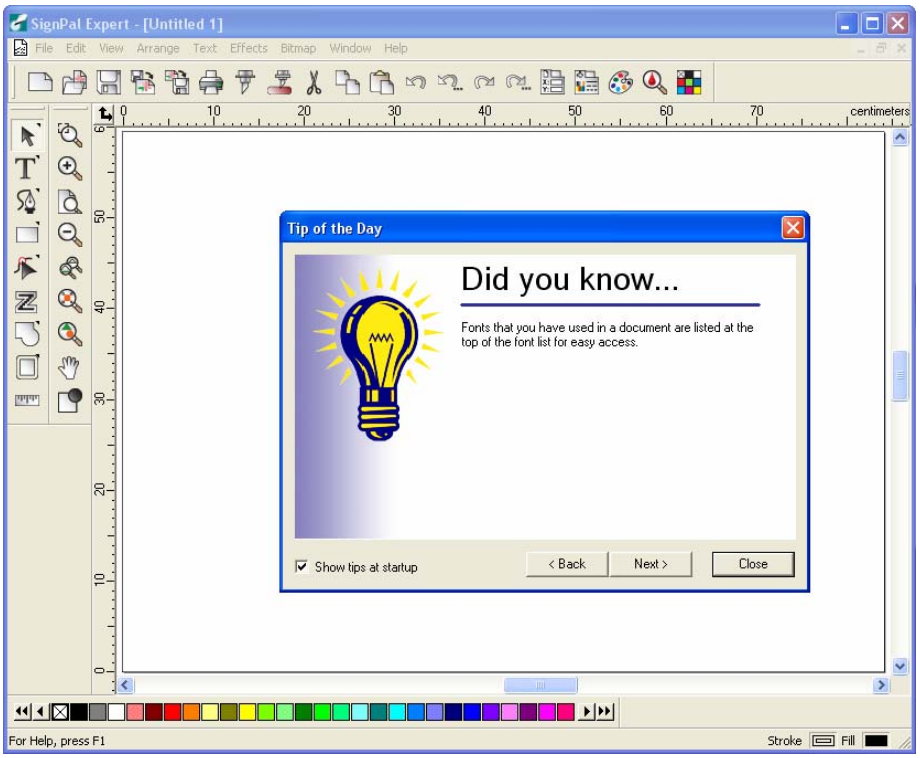



17. If you have registered before, please enter your Registration code as below to open SignPal 8.5v1 software.



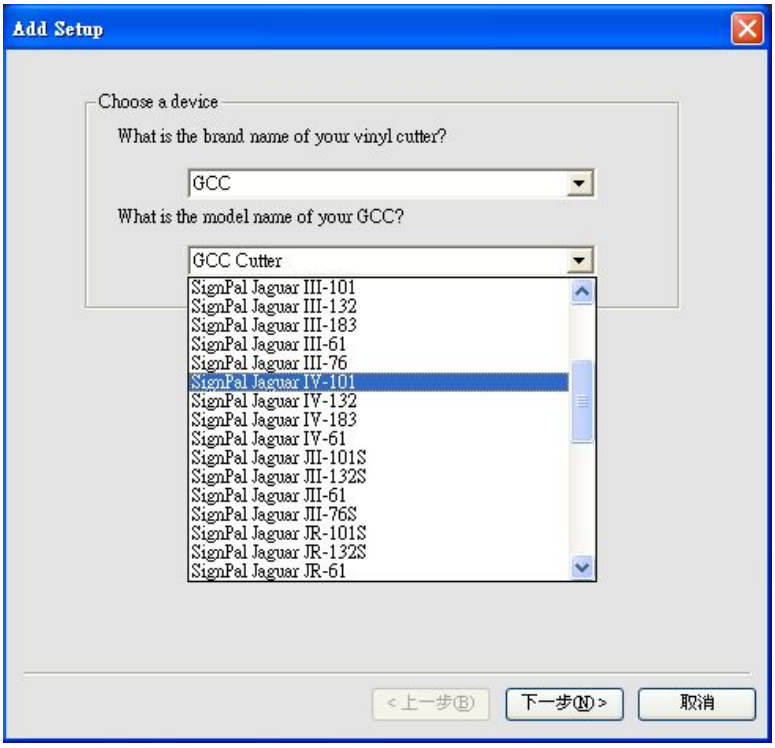
SignPal
Sign Making Software
SignPal

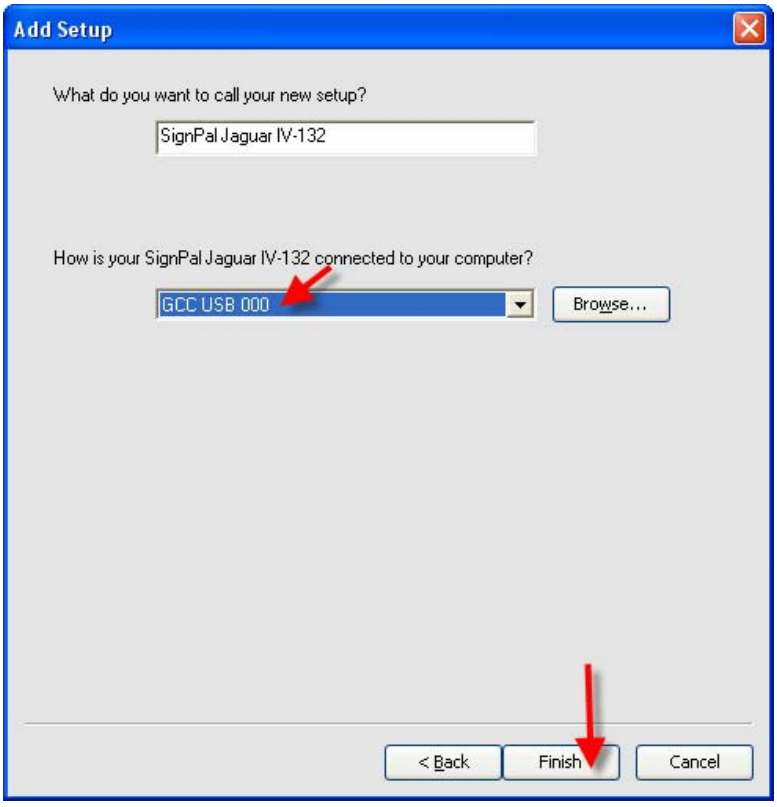
SignPal Expert
SignPal Expert 8.5v1
Runtime hours until password expires: 582.51
Licensed to:
YWHX-JDNM-
-WPCJ-TFV7-KYUP-YRGF
OK

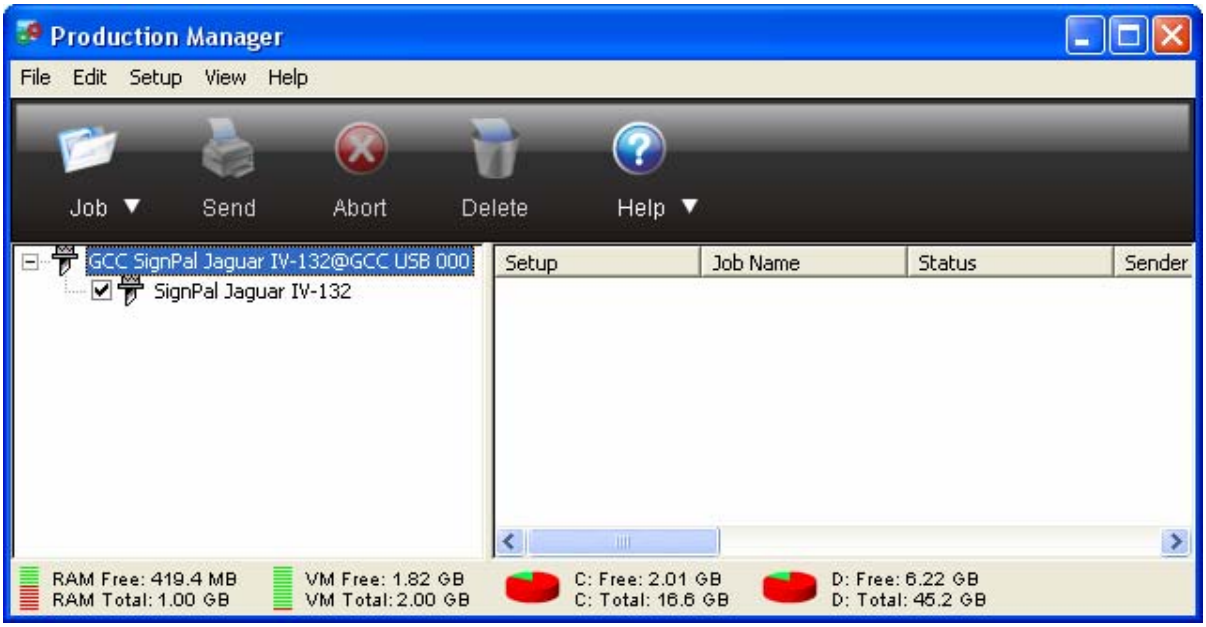

SignPal Expert - [Untitled 1]
File Edit View Arrange Text Effects Bitmap Window Help
centimeters
Tip of the Day
Did you know...
Fonts that you have used in a document are listed at the top of the font list for easy access.
Show tips at startup
< Back
Next >
Close
For Help, press F1
Stroke
Fill

## [2] Set up your GCC Cutter on Production Manager

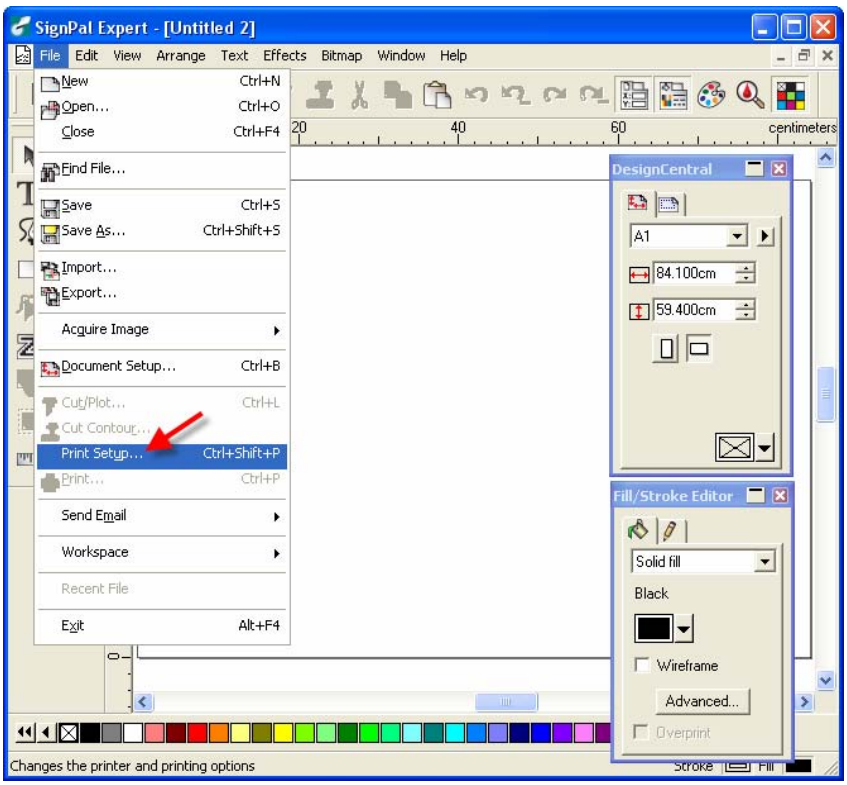
1. Open Production Manager 8.5v1
2. Choose and set up your GCC cutter.
   (Note that AAS II System only works on Jaguar IV and Puma III.)



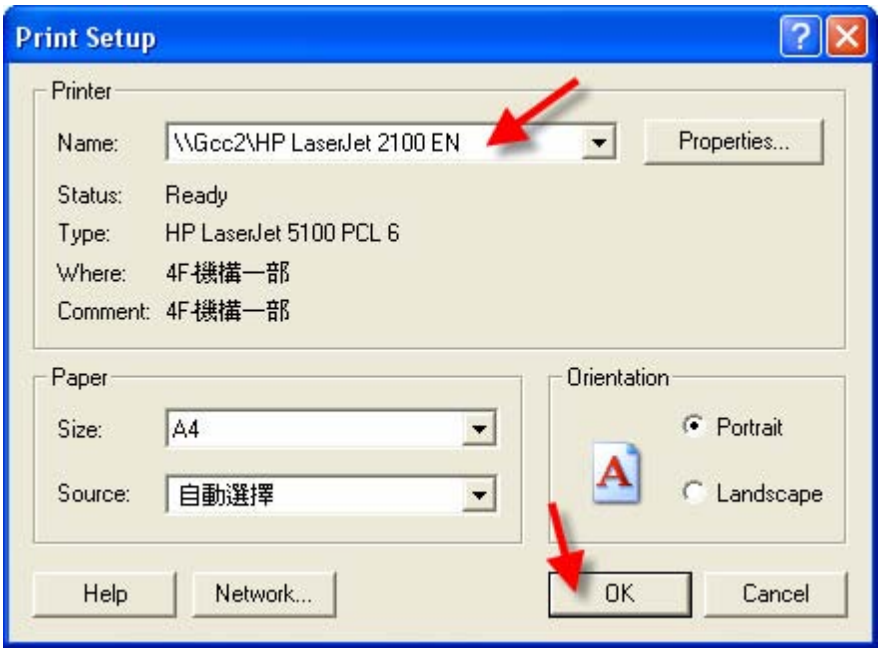



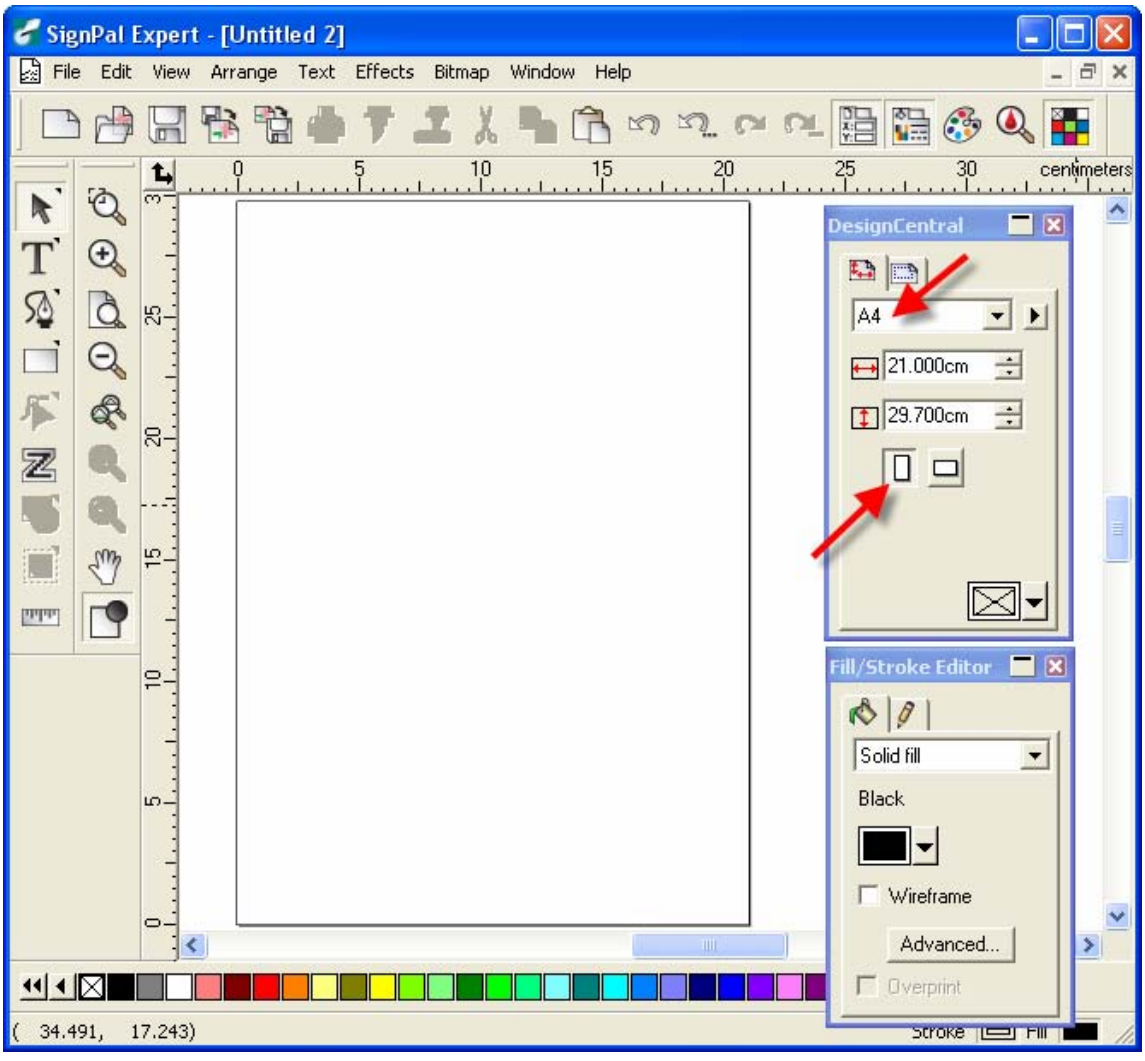


3. Select **File > Print Setup** in SignPal Software.



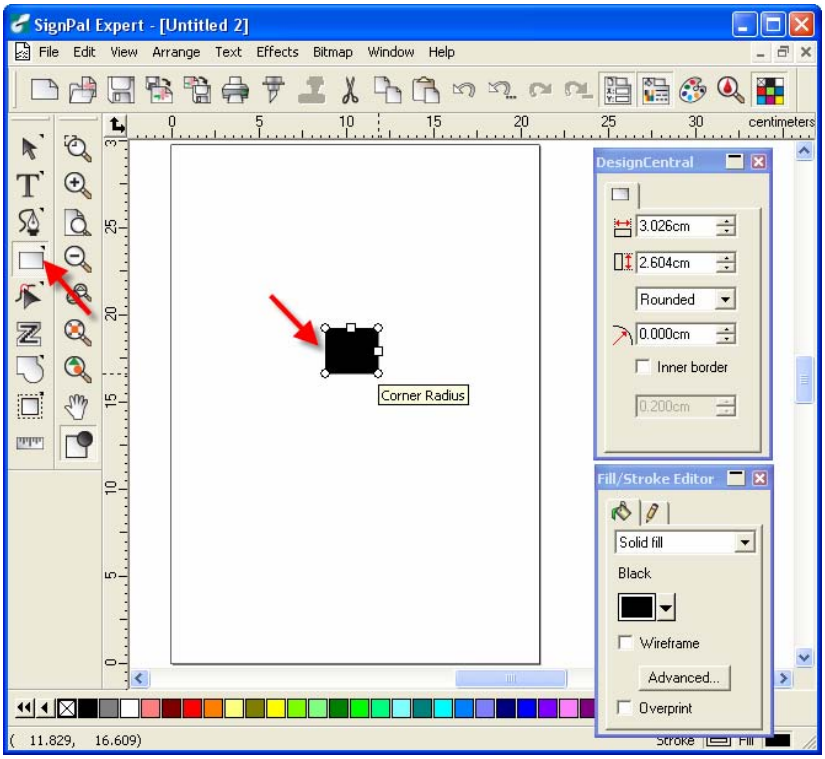
4. Select the printer and paper size.



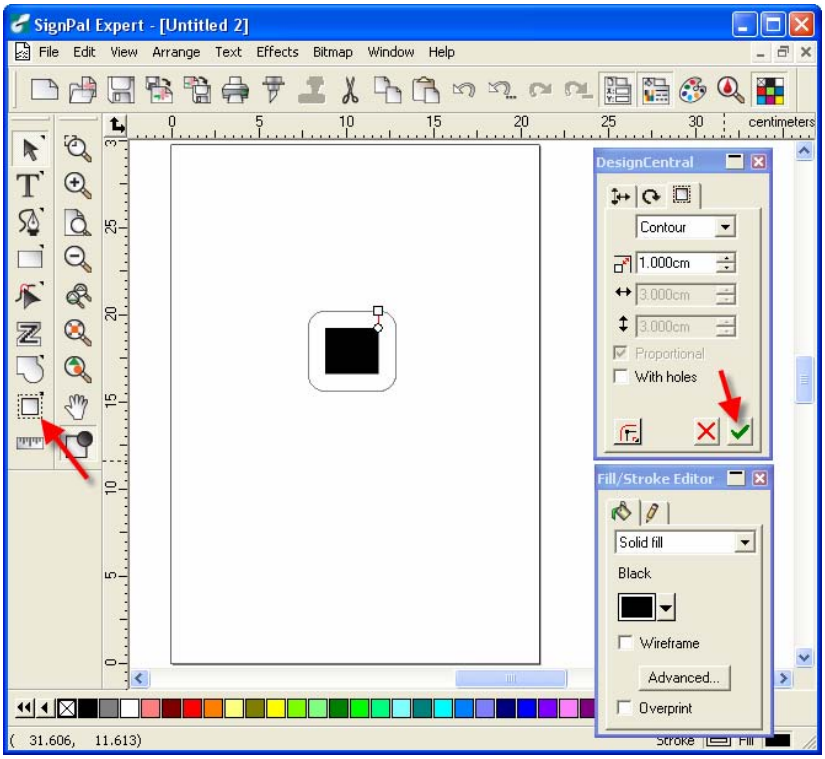



## -- SignPal AASII Quick Start

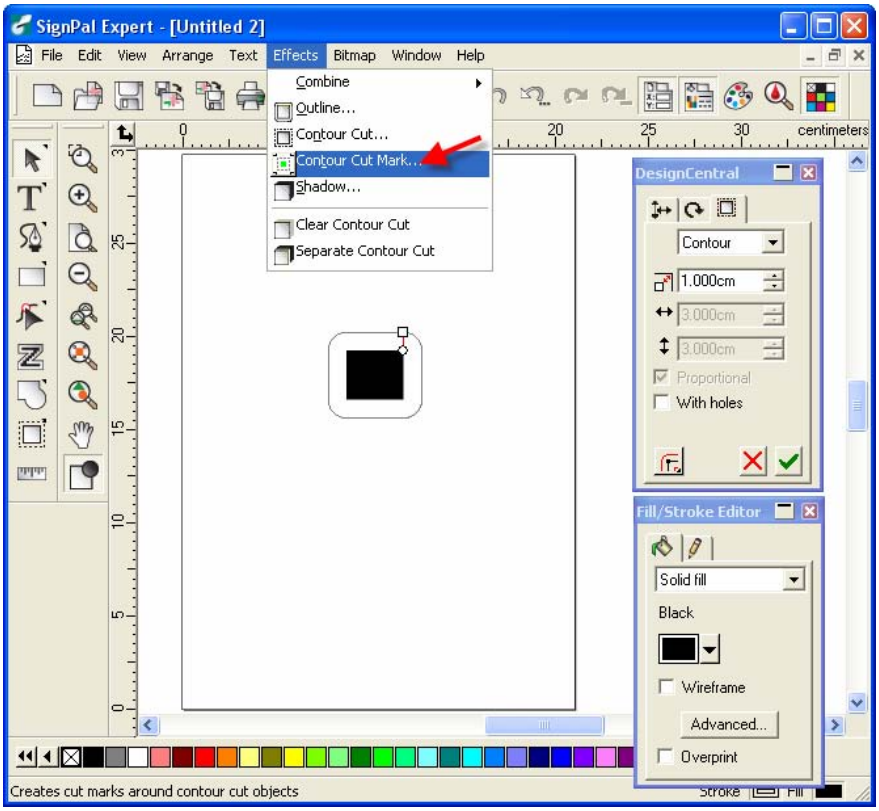
5. Use the **Rectangle Tool** to create a rectangle.



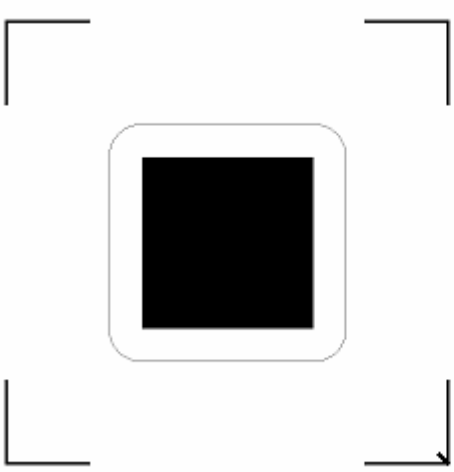

6. Select **Effect > Contour Cut**. Then click 'Apply' in DesignCentral window.

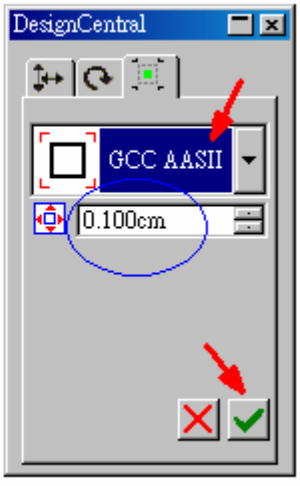


7. Apply the contour cut mark of GCC AASII by selecting **Effect > Contour Cut Mark**.




8. Select "**GCC AASII**" in SignPal DesignCentral window to create the AAS II registration marks (4-Point Positioning). Set the vales as 0.1cm or above and click '**Apply**' in DesignCentral window. The value is to define the distance between registration marks and image area. If the value is less than 0.1cm, it is likely that the image will overlap the marks and result in bad cutting quality.



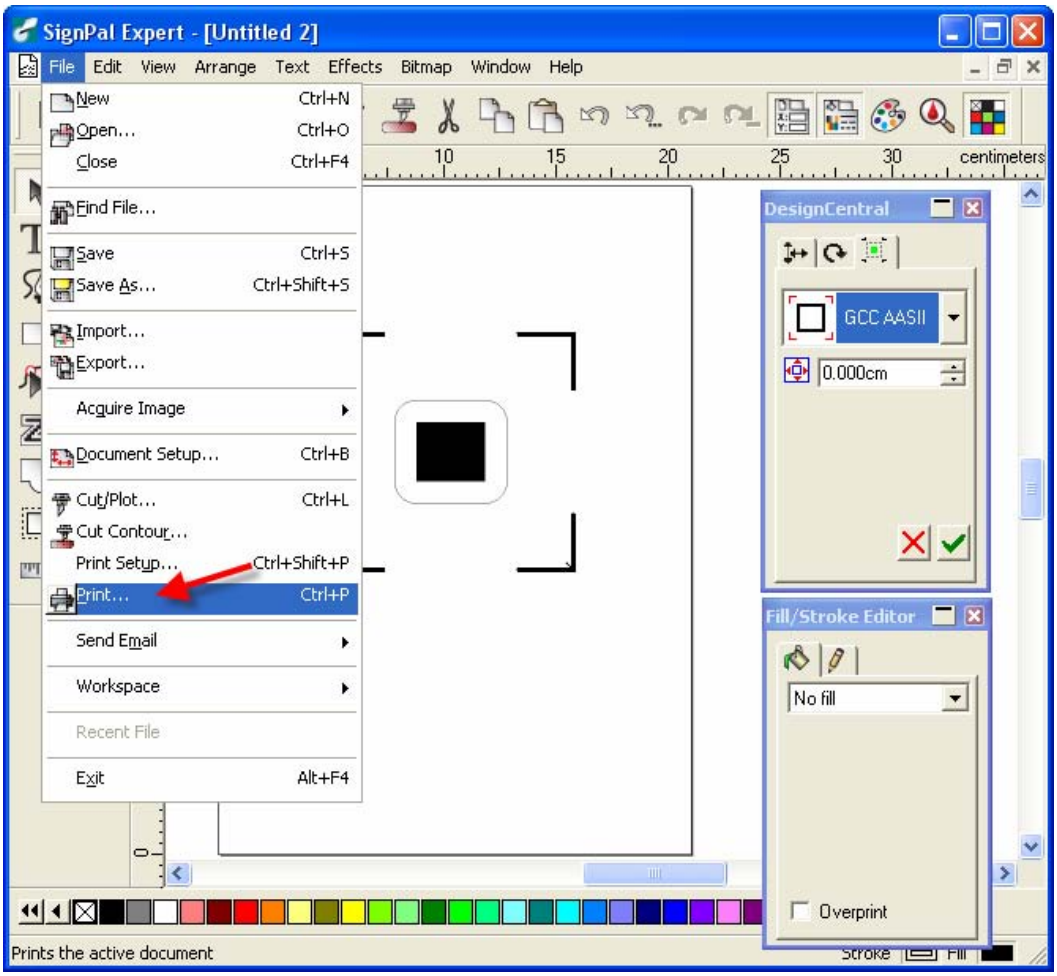


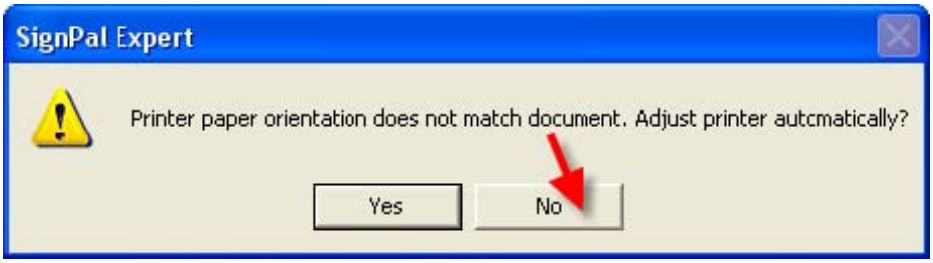

9. There are three types of GCC AASII registration marks: 4-Point Positioning, Segmental Positioning, and Multiple Copies. To make 'Segmental Positioning' marks, please select "**GCC**

**Segmentation**" in DesignCentral window and then click '**Apply**'.

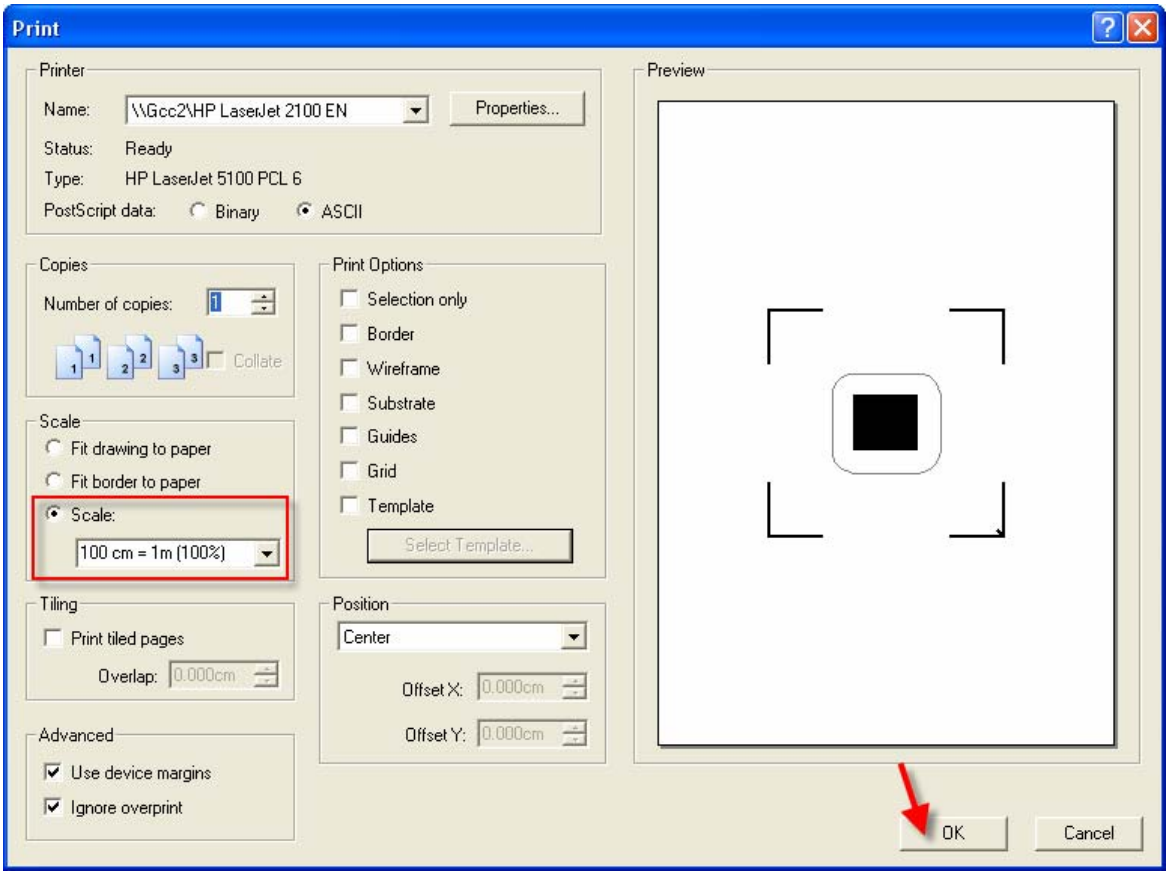
10. For 'Multiple Copies', this function is not available in SignPal. Currently the 'Multiple Copies' function is only available under CorelDRAW plug-in.

11. Select **File > Print** to print out the image.

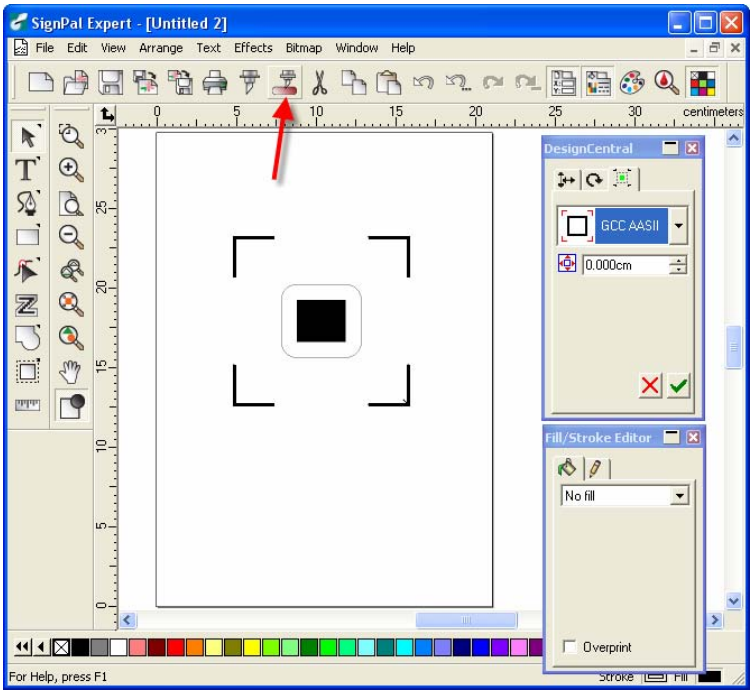


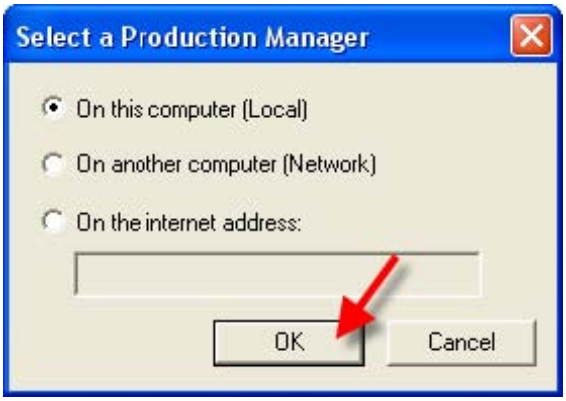


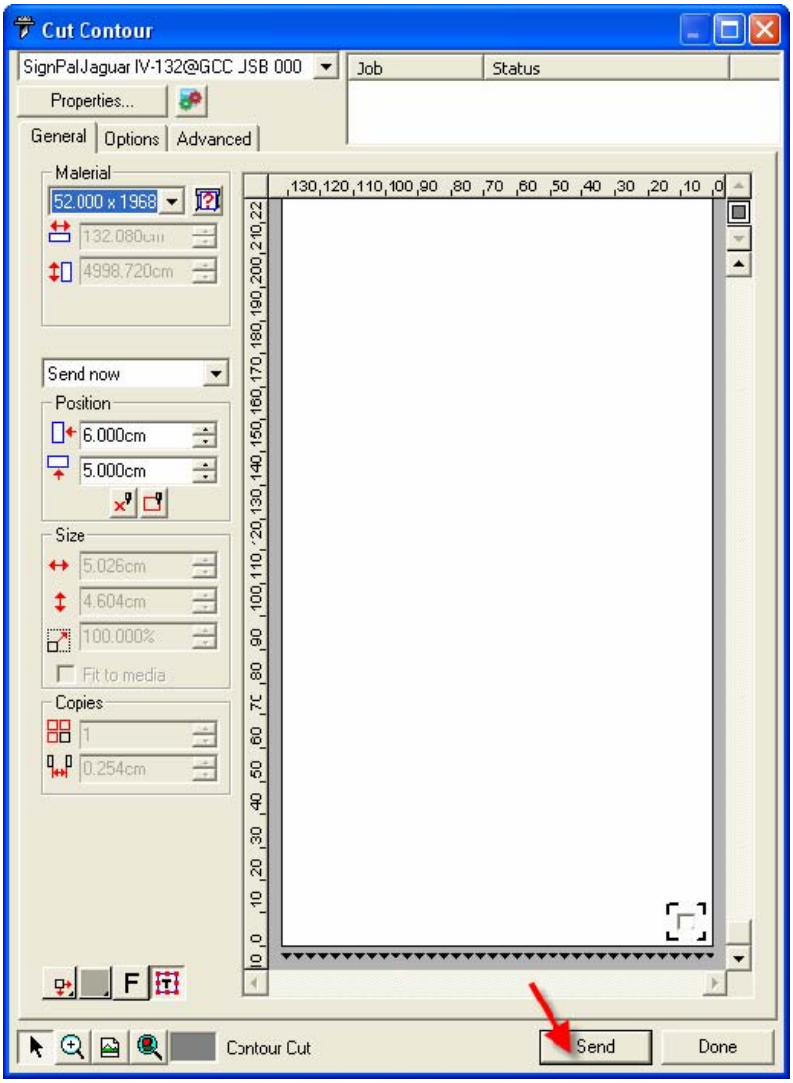

12. Set the Scale as 100cm =1m (100%) in Print page.




13. Load the printout vinyl on the plotter and select **File > Cut Contour** to send data. You can preview the job and change cutter's parameter settings in 'Properties' tab of Cut Contour window. The Production Manager will be automatic activated to complete the job.


SignPal Expert - [Untitled 2]
File Edit View Arrange Text Effects Bitmap Window Help
DesignCentral
GCC AASII
0.000cm
Fill/Stroke Editor
No fill
Overprint
For Help, press F1


Select a Production Manager
On this computer (Local)
On another computer (Network)
On the internet address:
OK
Cancel

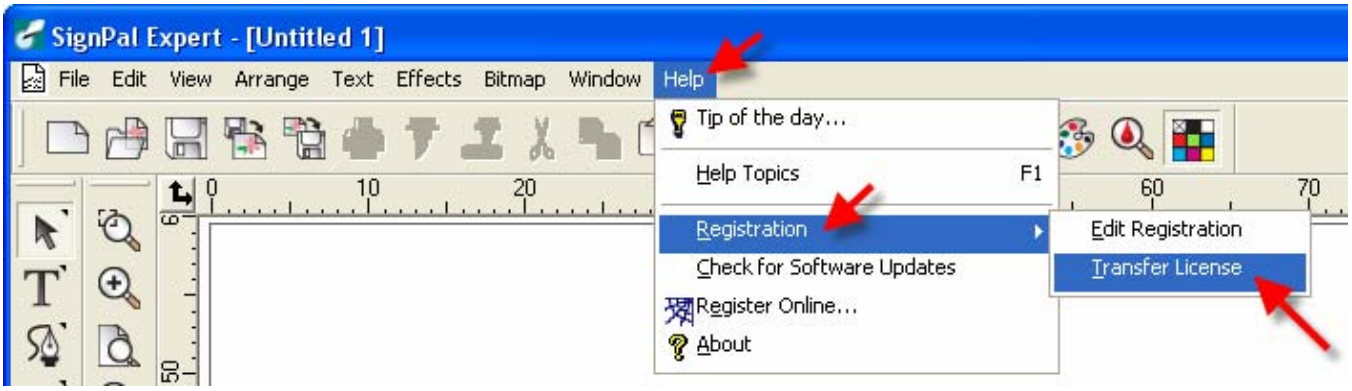

Cut Contour
SignPalJaguar IV-132@GCC JSB 000
Job
Status
Properties...
General
Options
Advanced
Malerial
52.000 x 1968
132.080cm
4998.720cm
Send now
Position
6.000cm
5.000cm
Size
5.026cm
4.604cm
100.000%
Fit to media
Copies
1
0.254cm
Contour Cut
Send
Done

## [3] Transferring a Software License Using Softkey

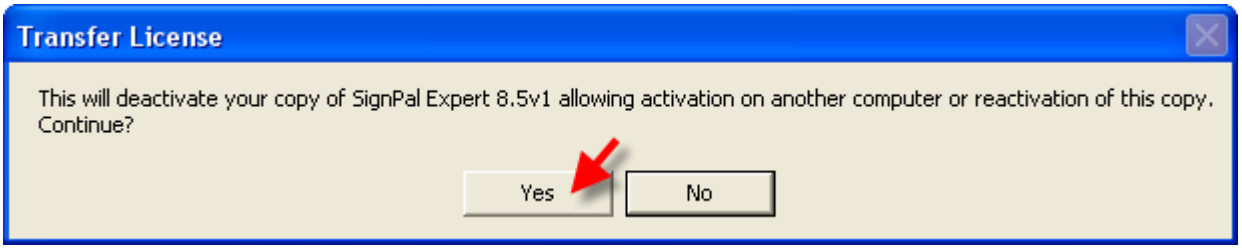
Softkey allows you to transfer the software license to another computer by disabling the software license on one computer, and enabling it on another.

> **Remarks**: If you would like to upgrade or reinstall the Windows OS, please transfer your license before reinstallation. If your hard drive has been formatted and you forget to transfer license in advance, please provide your SignPal ID and password to your local distributor, they will contact GCC to reset your data, and you will be able to register again afterward.

1. From the **Help** menu, mouse over **Registration** and select **Transfer License**.

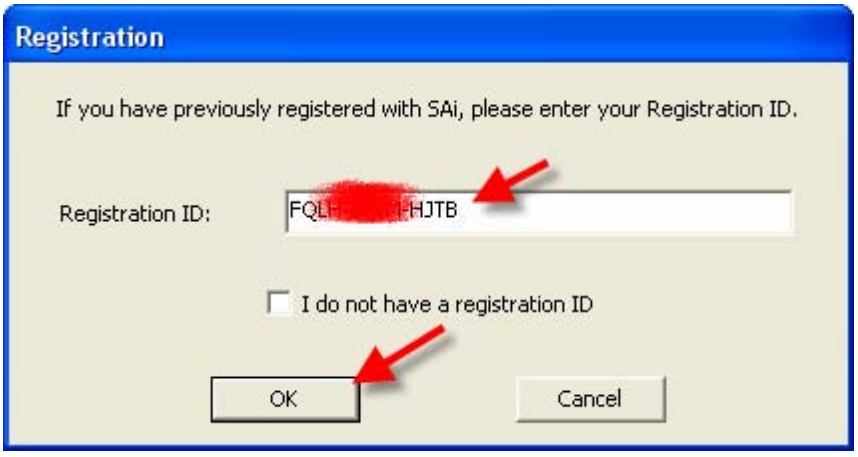



2. Click **Yes** to deactivate the software license on the computer currently running the software. You can reactivate the license on another computer or the same computer.




3. Make note of your Registration ID and click **OK**.

4. Install the software on the computer you wish to transfer the license to.



## [4] SignPal 8.5 Feature Lists

| | Pro | Master | Expert | Apprentice |
|---|---|---|---|---|
| Working with Files | | | | |
| Job Info | ● | ● | ● | |
| Templates | ● | | | |
| Using DesignEditor | | | | |
| DesignEditor | ● | ● | | |
| Arranging Objects | | | | |
| Distribute | ● | | | |
| Working with Color | | | | |
| Eyedropper | ● | | | |
| Using Fill/Stroke Editor | | | | |
| Overprint | ● | ● | ● | ● |
| Working with Shapes | | | | |
| Fan | ● | | | |
| Arrow | ● | | | |
| Working with Text | | | | |
| Text Block Size | ● | | | |
| URW Font Support | Optional | | | |
| Working with Bitmaps | | | | |
| Scanning | ● | ● | ● | |
| Rasterize | ● | | | |
| Colormode | ● | | | |
| Marquee | ● | ● | | |
| Move | ● | ● | | |
| Eraser | ● | ● | | |
| Pencil | ● | ● | | |
| Fill | ● | ● | | |
| Crop | ● | ● | | |
| AutoTrace | ● | ● | ● | |
| ColorTrace | ● | | | |
| Working with Effects | | | | |
| Color Trapping | ● | | | |
| Graphic Styles | | | | |
| Contour | ● | ● | ● | |
| Working with Measurements and Labels | | | | |
| Dimensions / Labels | ● | ● | | |
| Automatic Dimension | ● | ● | | |
| Dimension to Page | ● | ● | | |
| Cutting your Design | | | | |
| Cut/Plot | ● | ● | ● | ● |

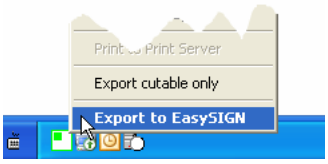
# EasySIGN Instruction

The user manual of EasySIGN software is available on the EasySIGN program CD, or you can refer to the getting started manual available on the EasySIGN webpage at http://www.easysign.com/mainwebv1/DownGT.aspx.

GCC AASII Corpmark System

This application note will show you how to use the GCC AASII corpmark system. It assumes that you have installed your GCC plotter correctly, and that you are able to cut simple jobs on it. If not, please refer to the “Getting started” manual available through the menu "Help, Various, GettingStarted.pdf".

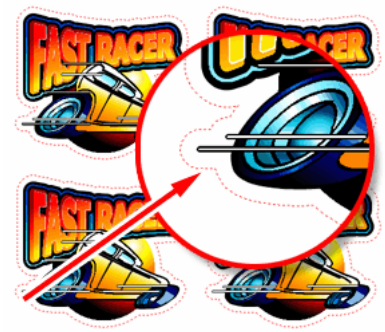
1. Make or import a design




You can either make the design in EasySIGN or import an existing design from another application. For making the design in EasySIGN refer to the "Getting Started" manual. To import a design (for example an Adobe illustrator file) into EasySIGN, use either the compatibility option, or use direct import (menu : "File, Import"). The easiest way is to use compatibility. To do this, start EasySIGN, then use the menu “File, Compatibility”, and click the software of your choice.

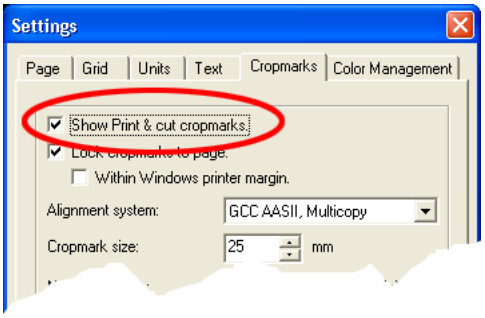
This software will now start, and can be used to design or open the required job. Click the icon in the system tray to easily send the file into EasySIGN.

2. Create print & cut lines.

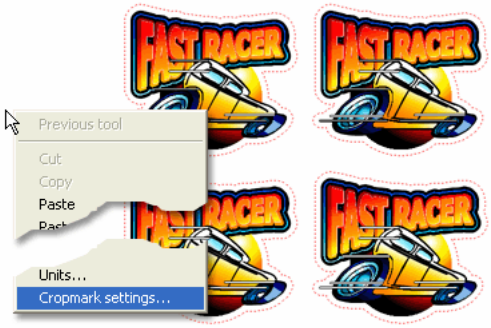


When your design is successfully imported into EasySIGN, you should then select the line or lines that you want to cut on your plotter. After selecting them, use the command “Edit, Convert to, Line type, Print&cut line”. The lines that will be cut are now shown in a dotted red line. Copy the design as you like.

3. Enable the cropmarks.




Right-click on an empty part of the worksheet, and choose the command “Cropmark settings”.




This will show a dialog.

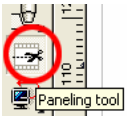
Please tick the box called “Show Print & cut cropmarks”.

Next, you need to make a choice which system that you want to use, there are three different systems:

| | |
|---|---|
| **GCC AASII** | This system uses four cropmarks, and one copy. It is meant for jobs that are not very large (like 60 cm or smaller) and that are going to be printed on single sheets. |
| **GCC AASII, Multicopy** | Use this system when you want to cut multiple copies of a small job. This will give you very high accuracy, but the plotter will scan every copy of the job separately, which is of course slower than one big job. |
| **GCC AASII, Multisegment** | Use this system when the job is large. We recommend it for jobs bigger than 60 centimeter. It will place extra markers on the sheet, which will enhance the accuracy but will take extra time to scan. |

The size of the cropmarks is fixed at 25 mm. Just click “OK” to close the dialog. If you have chosen the “Multicopy” cropmarks, there will be extra settings for horizontal copies, vertical copies etc, please ignore these for now, we will get back to them later.

4. Position the cropmark




Use the panelling tool from the left toolbox to drag the cropmarks around your job.

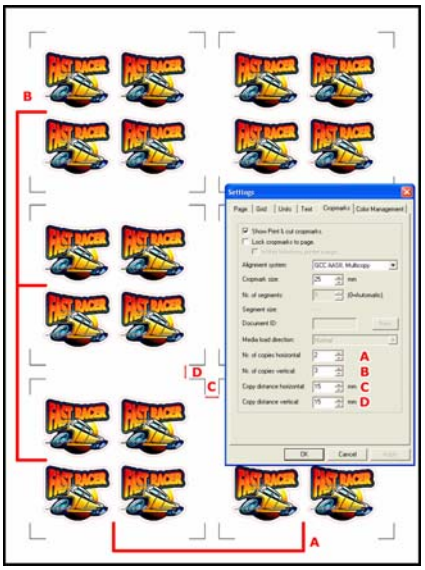
Make sure that the cropmarks have some white space around them, there should not be any objects inside them, to make sure they can be scanned accurately.

5. Export the job for printing

Your design is now ready for production. Click “File, Export”, and a dialog will come up that enables you to create a file. We advise you to use “EPS Encapsulated Postscript (*.EPS)” as the output format, this can be read by any RIP or other print software. Print the resulting EPS file with the software of your choice.

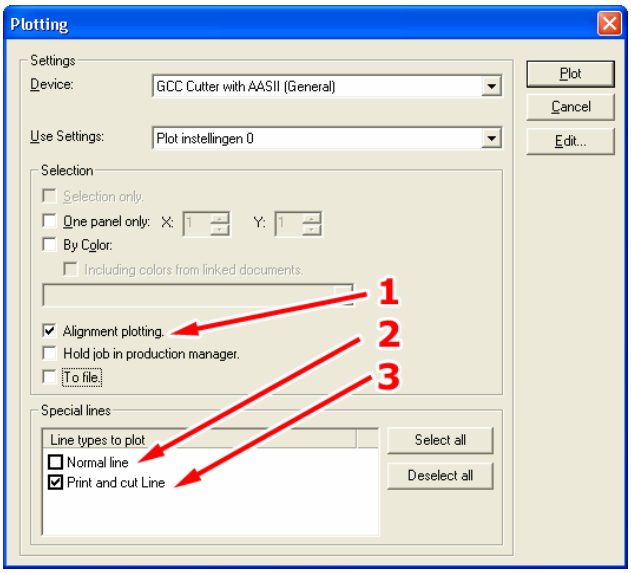
6. Cut the result

Place the resulting print in your plotter. Set the plotter to “offline” and use the arrow keys to position the laser within the lower right cropmark, then set the plotter to “online”.




If you have chosen the cropmarks “Multicopy”, there is one extra step: right-click the page and go to the “Cropmark settings” dialog again. In the dialog, enter the correct values for “nr. Of copies horizontal”, “Nr of copies vertical” and “Copy distance horizontal”, “copy distance vertical”, then click “OK”.

In the EasySIGN software, choose “File, Plotting”. A dialog will come up that allows you to change the plotter settings.




Just make sure that the following settings are made:

| | |
|---|---|
| Alignment plotting (1) | Switched on |
| Normal line (2) | Switched off |
| Print and cut line (3) | Switched on |

Then click “OK”. Your plotter will then start scanning the cropmarks, and after that the job will be cut.

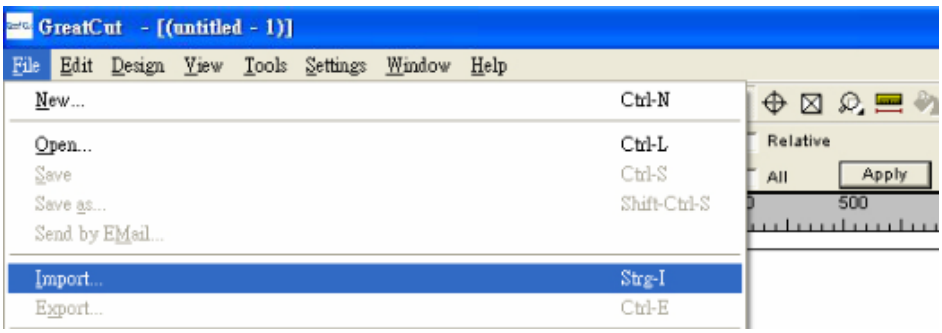
# GreatCut Instruction

The user manual of GreatCut software is available on the GCC installation CD.

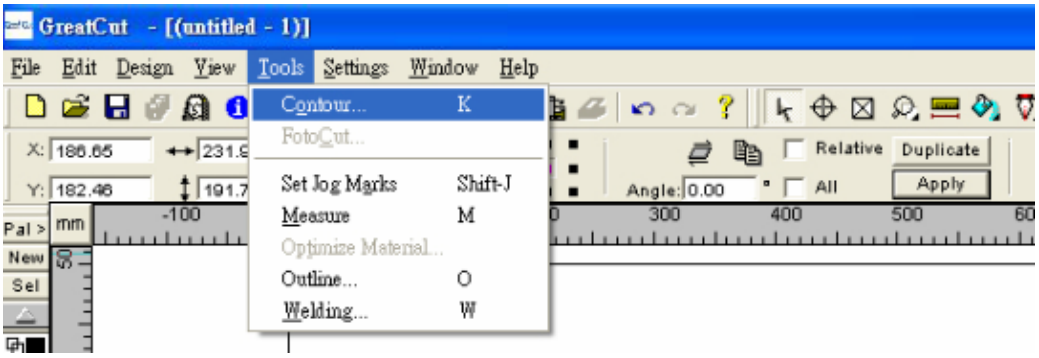
GCC AASII System

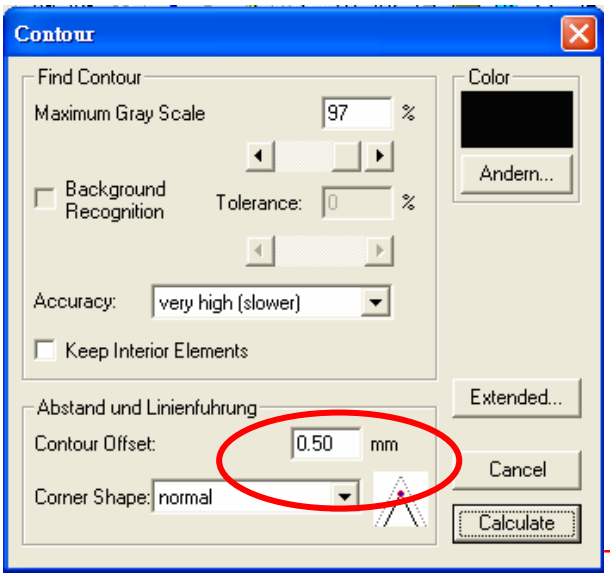
Below are step-by-step instructions when using the AAS function of GreatCut software.

**Step 1 Import the image you want to print and cut.**




**Step 2 Add the contour line.**

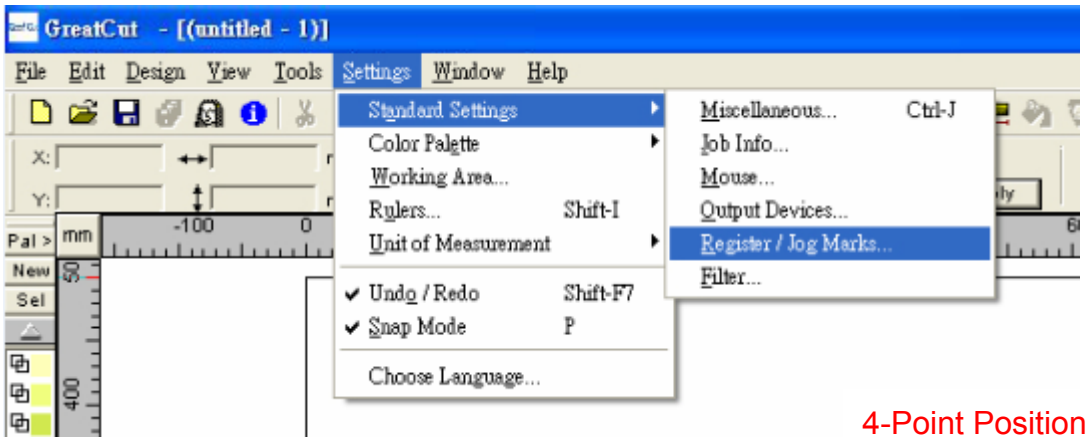


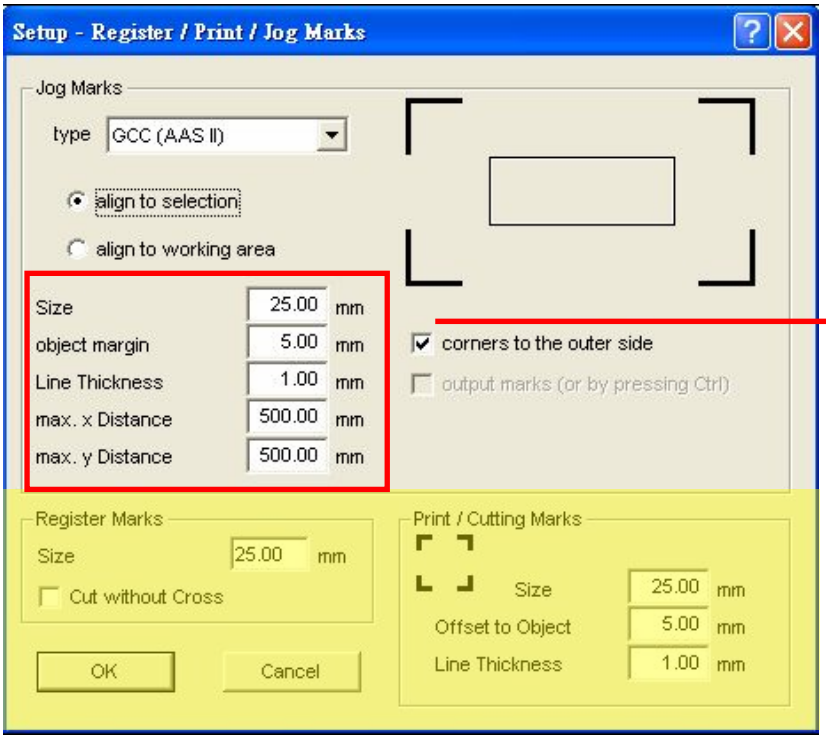




The value of Contour Offset should be ≥ 0.5mm.

### Step 3 Add the registration marks

Set up the value of registration marks.




4-Point Positioning

- Size: The length of marks
  → Range: 5mm~50mm
  → Optimized Setting: 25mm
- Object margin: The distance between marks and images
  → Range: 0mm~50mm
  → Optimized Setting: 5mm
- Line thickness: the line thickness of marks
  → Range: 1mm~2mm
  → Optimized Setting: 1mm

Segmental Positioning

- Max. x Distance: The distance of intermediate position on the X axis
  → Range: 200-500 mm
- Max. y Distance: The distance of intermediate position on the Y axis
  → Range: 200-500 mm

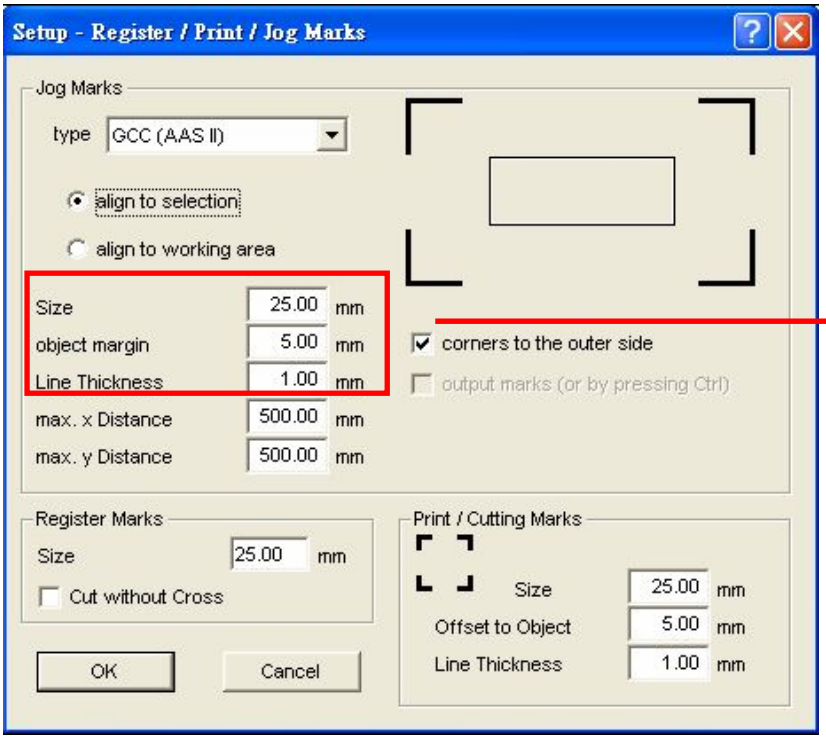
Note:

1. Jog Marks are Registration Marks; please adjust your parameters in this section. Please DO NOT make any changes to the “Register Marks” and “Print/Cutting Marks” sections highlighted in yellow.

2. Three types of registration marks and the ways of setting them are introduced in the following steps.

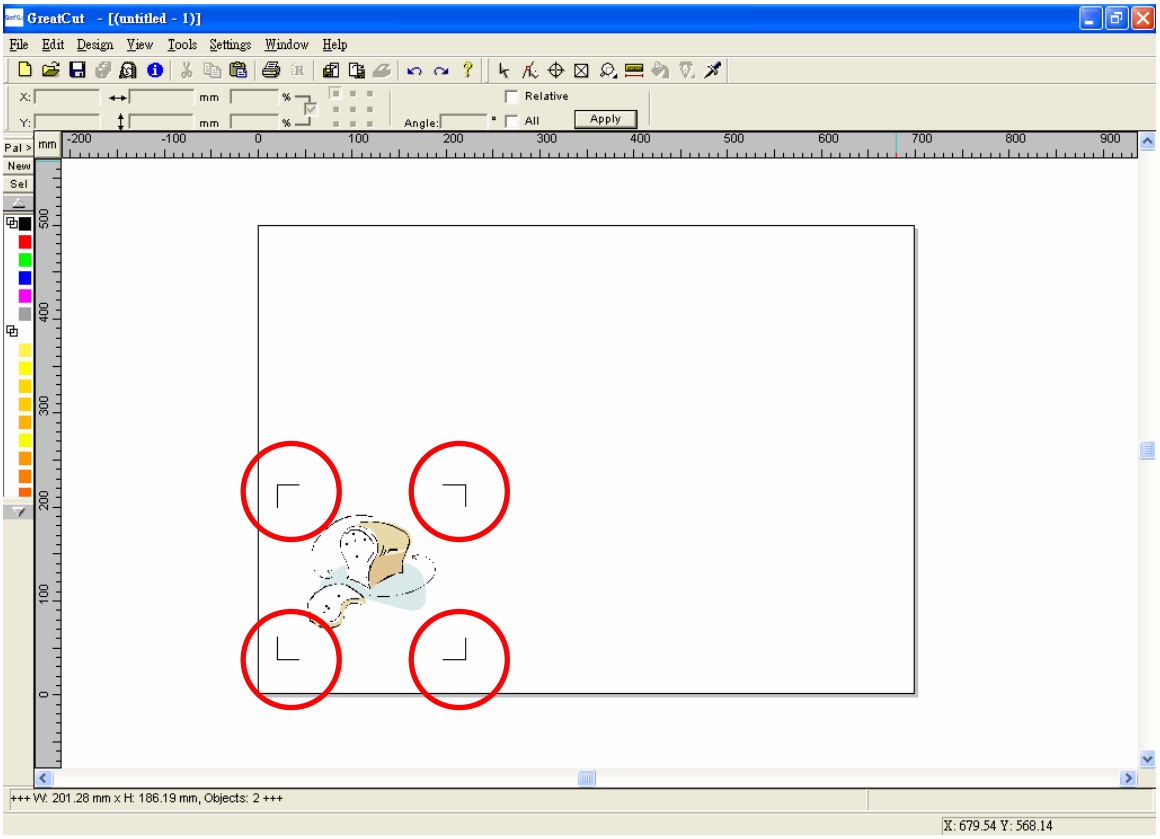
## 4-Point Positioning

Adjust the size, object margin and line thickness of your registration marks. After this is finished, click “Set Jog Marks” under “Tools”.



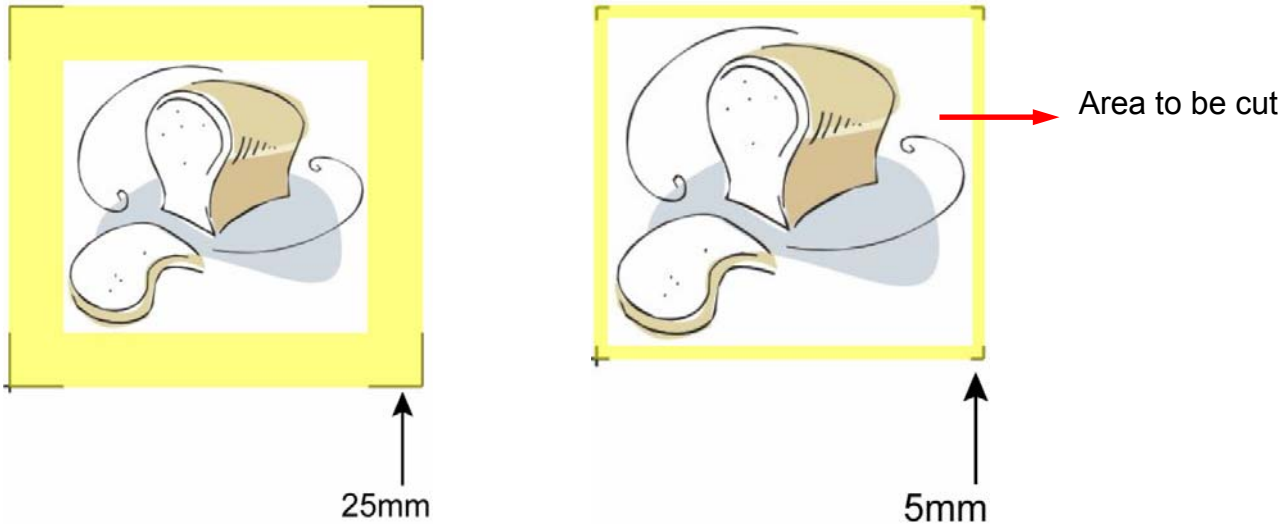

- Size: The length of marks
  → Range: 5mm~50mm
  → Optimized Setting: 25mm
- Object margin: The distance between marks and images
  → Range: 0mm~50mm
  → Optimized Setting: 5mm
- Line thickness: the line thickness of marks
  → Range: 1mm~2mm
  → Optimized Setting: 1mm

The system will create the 4 marks as shown in the picture below.



Note:

1. To save your materials, in addition to amending object margins, you can also adjust the length of the registration marks (5mm minimum) when you apply the above function(see table 1 for suggestions based on different material sizes). The smaller the size is, the smaller the distance between the object and the registration marks is (see the figures below).




| Page size (unit: inch) | Suggested mark length (unit: mm) |
|---|---|
| A6 (4.13 × 5.83) | 5 |
| A5 (5.83 × 8.27) | 8 |
| A4 (8.27 × 11.69) | 11 |
| A3 (11.69 × 16.54) | 16 |
| A2 (16.54 × 23.39) | 23 |
| A1 (23.39 × 33.11) and above | 25* |

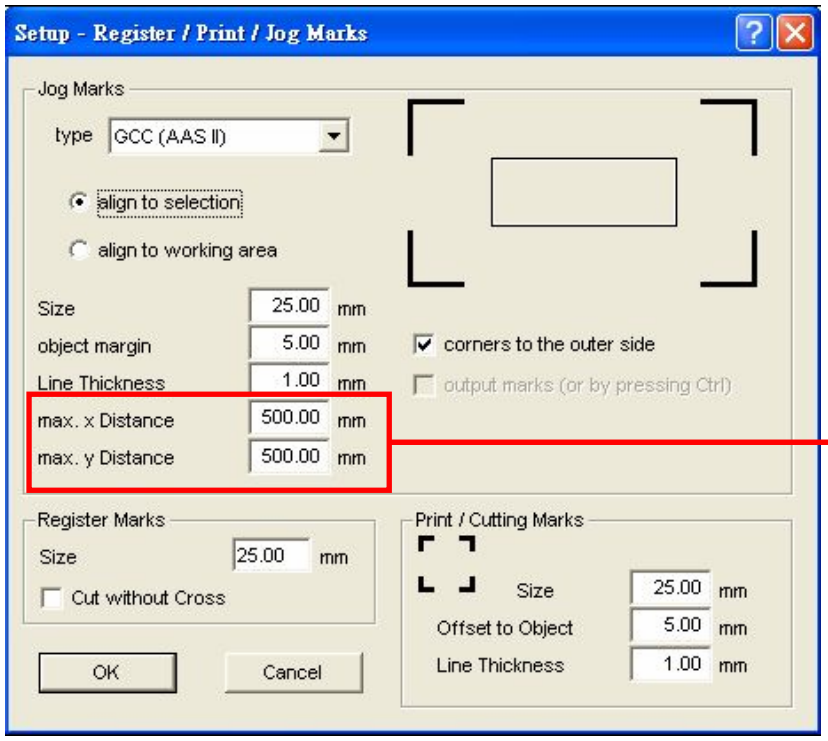
Table 1

*25mm is the suggested value for the registration mark length

2. The size of the registration marks would affect the accuracy of registration mark detection so please make sure the amount you enter is reasonable.

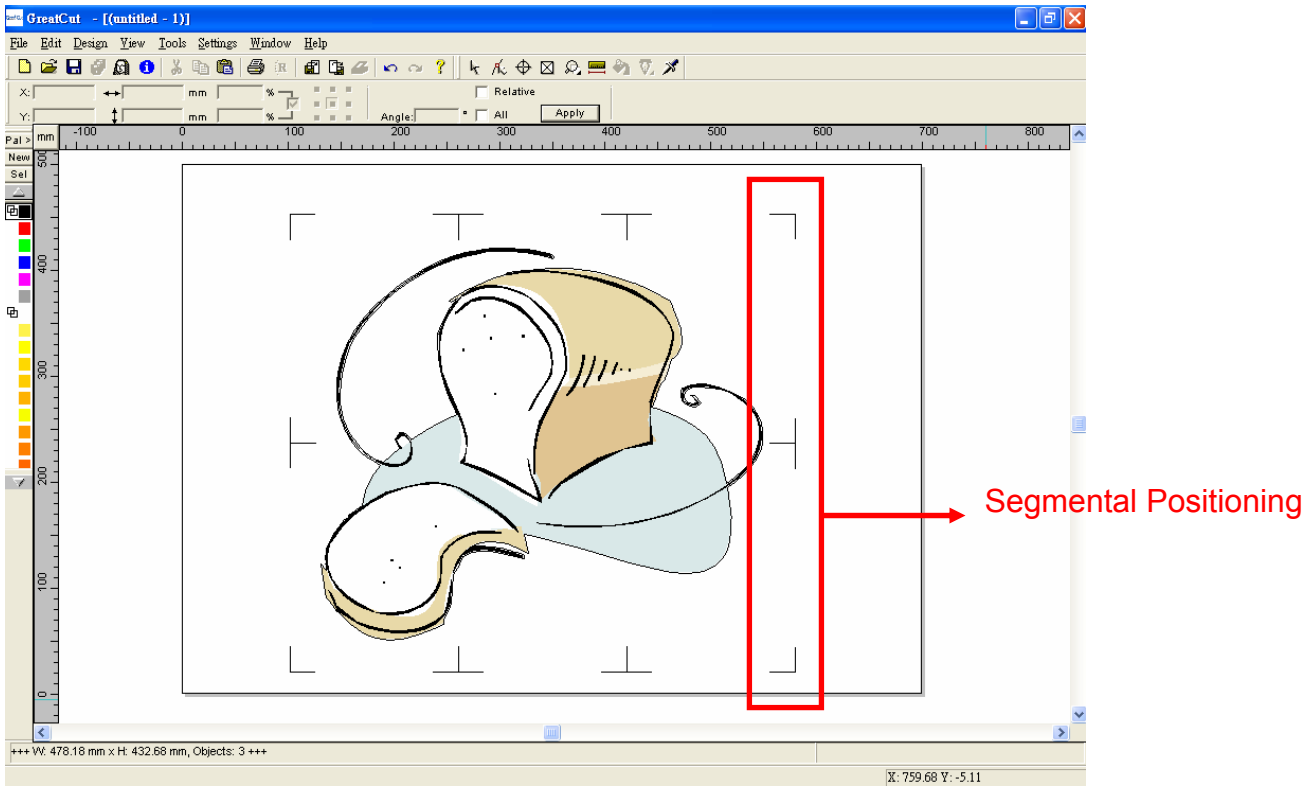
## Segmental Positioning

For precise cutting quality, it is suggested to select “Segmental Positioning” by adjusting the x and y distance when you are working on an extra long or large-size image to increase cutting quality.

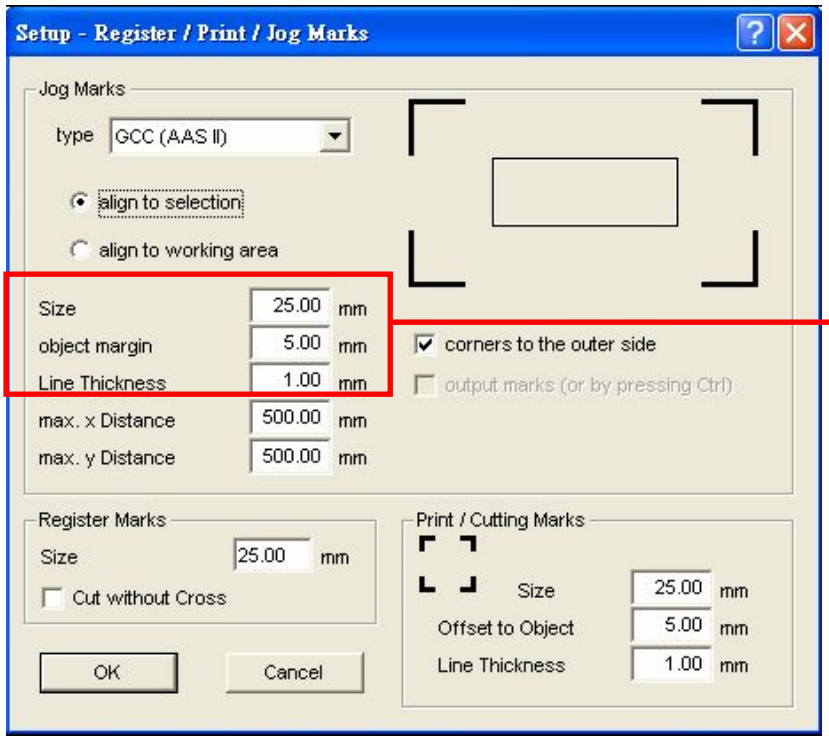



- Max. x Distance: The distance of intermediate position on the X axis
  → Range: 200-500 mm
- Max. y Distance: The distance of intermediate position on the Y axis
  → Range: 200-500 mm

The system will create the marks as shown in the picture below.

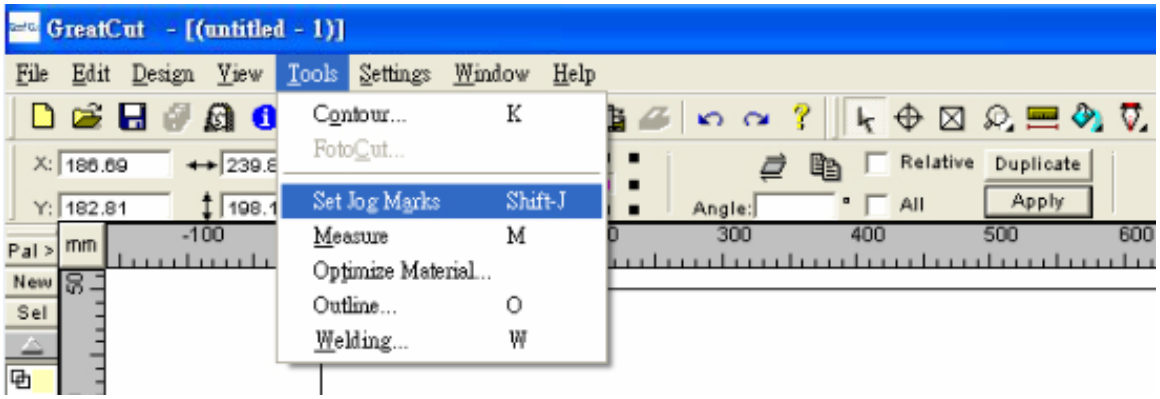


## Multiple Copies

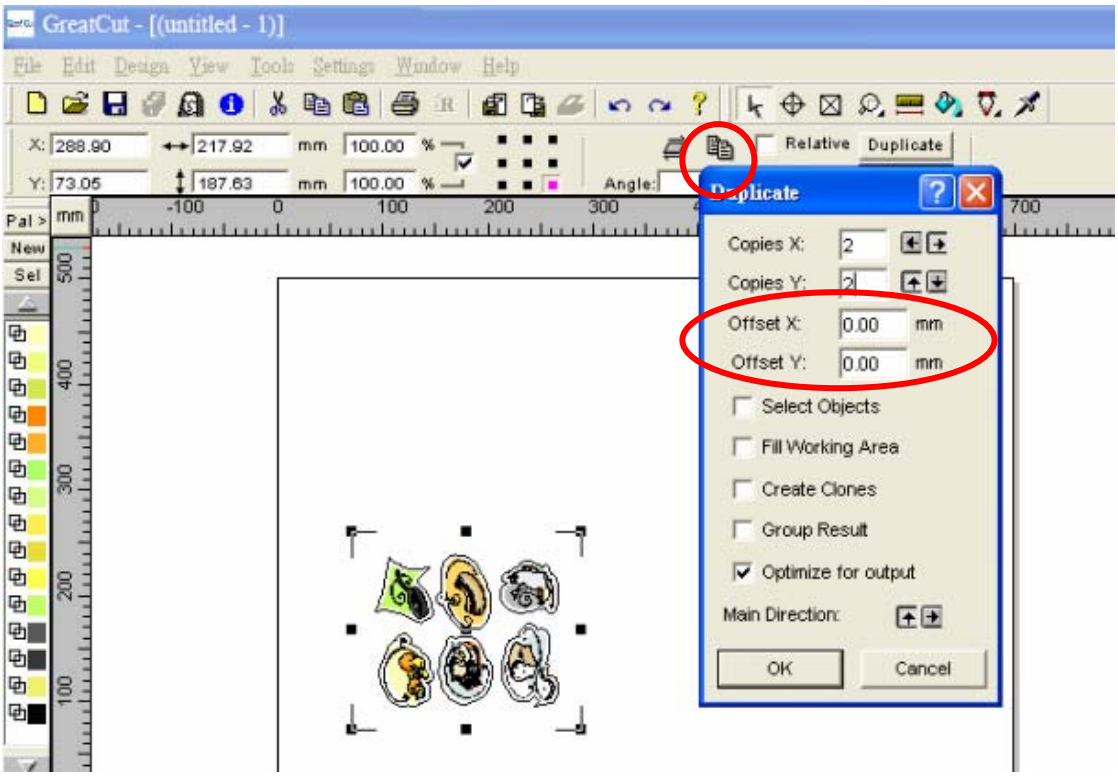



When you apply the “Multiple Copies” function, the value that has been set in this section will still be applied.

Set the registration marks.



Select the whole image including registration marks and click the multiple copies button.




Note: The spacing of vertical & horizontal (Offset X & Y) should be ≥ 20mm or = 0mm.

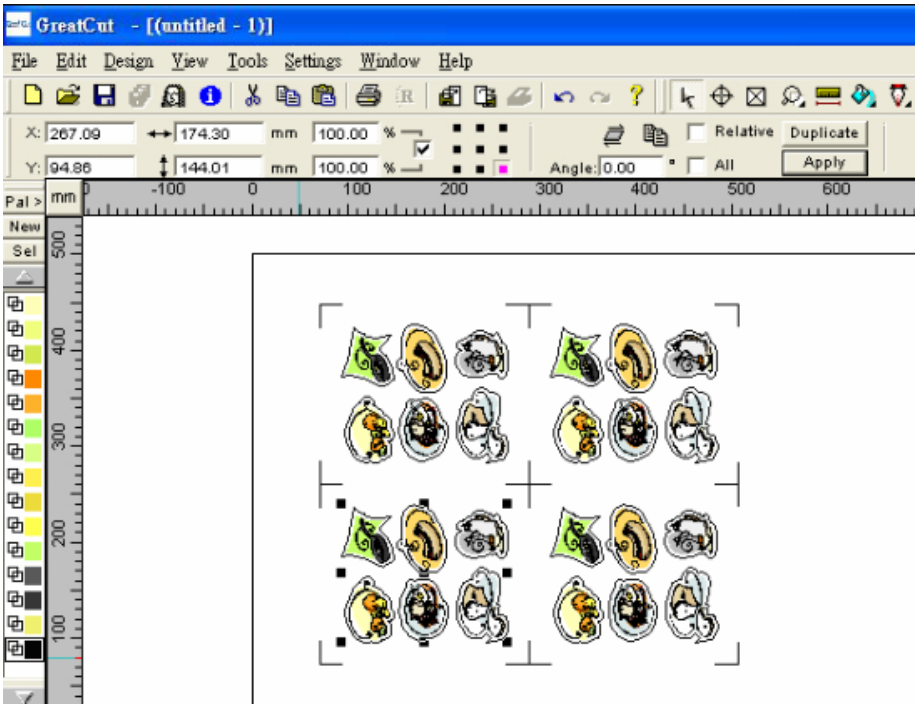
**Step 4 Print out the image.**

If you apply the Multiple Copies function, you will have to set up the multiple copies function with GCC cutting plotter by following the steps below.

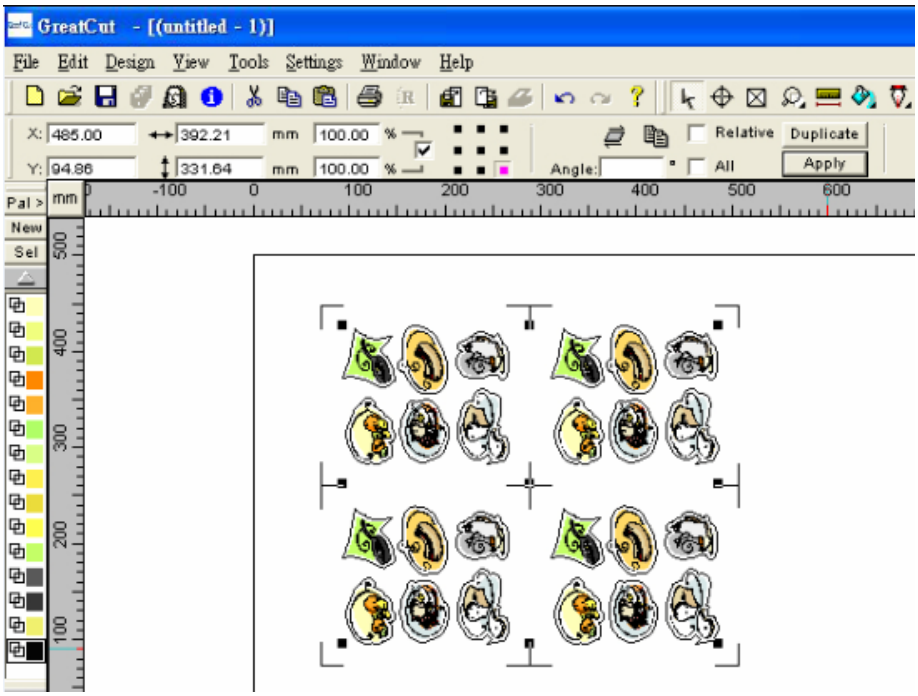
*Please note that you cannot select the whole images when output the multiple copies of images. You only need to select the contour line of original one and set up the value with GreatCut and then you can send it to GCC cutting plotter.

See the example as below.

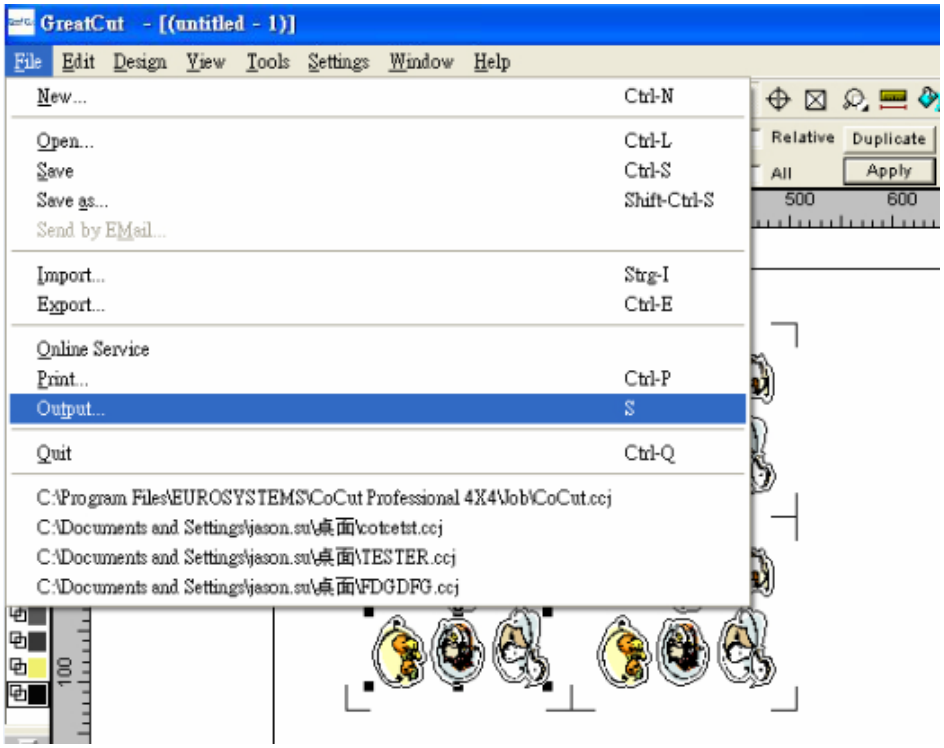
Right: (You should select the contour line but not the image.)



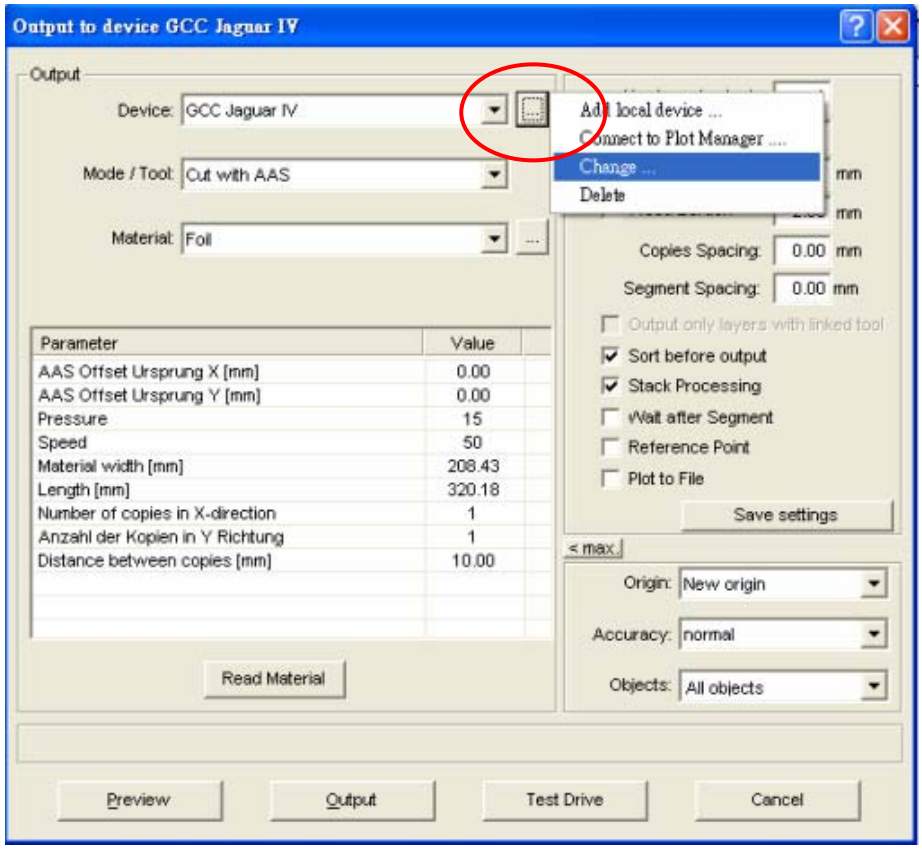

Wrong: (You cannot select the whole images.)



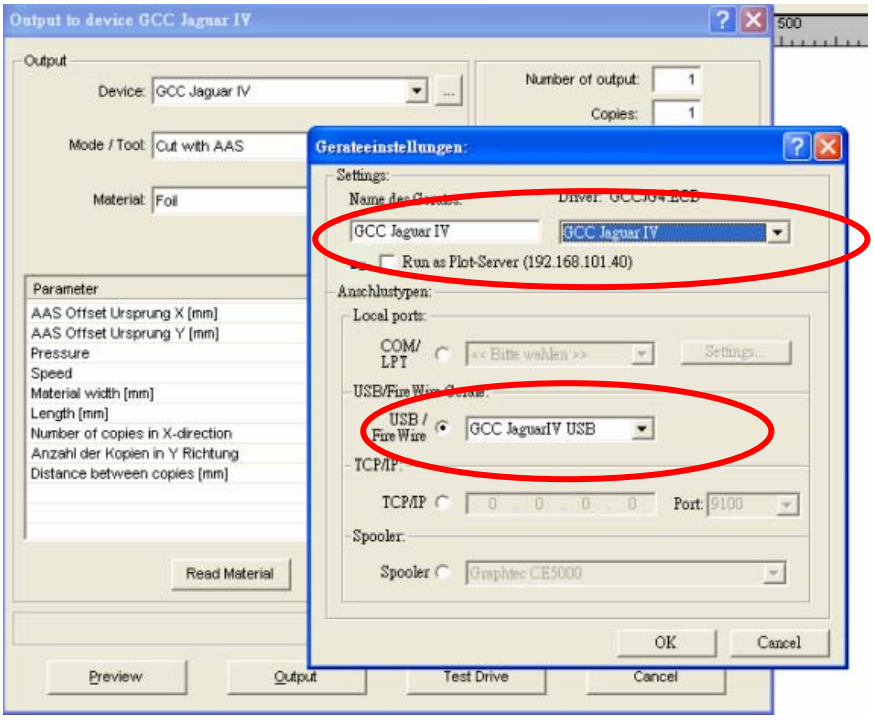
Now you can output the image.




A. Before output, you need to set up your cutter.



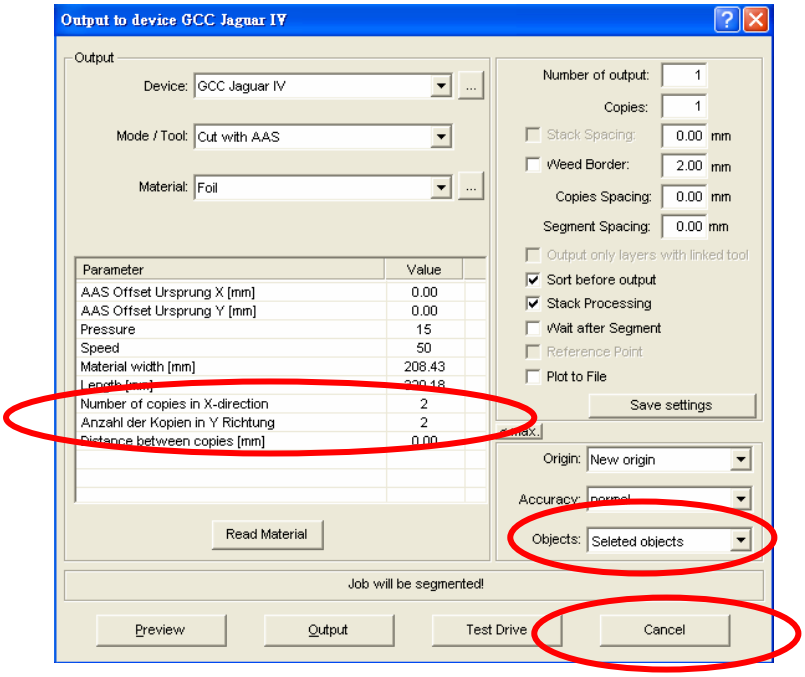

B. Select the series of cutter and the USB port.




C. Set up the number of copies you need to cut here.

Note:

1. The number of copies and distance between copies should be the same as you made above.
2. You should confirm that the option of objects must show “Selected objects”.




**Step 5 You now have a perfectly cut image.**

Enjoy!

# Illustrator Plug-In Instruction

AASII VBA Installer is applicable for Illustrator Version CS3, CS4, CS5

## Installation

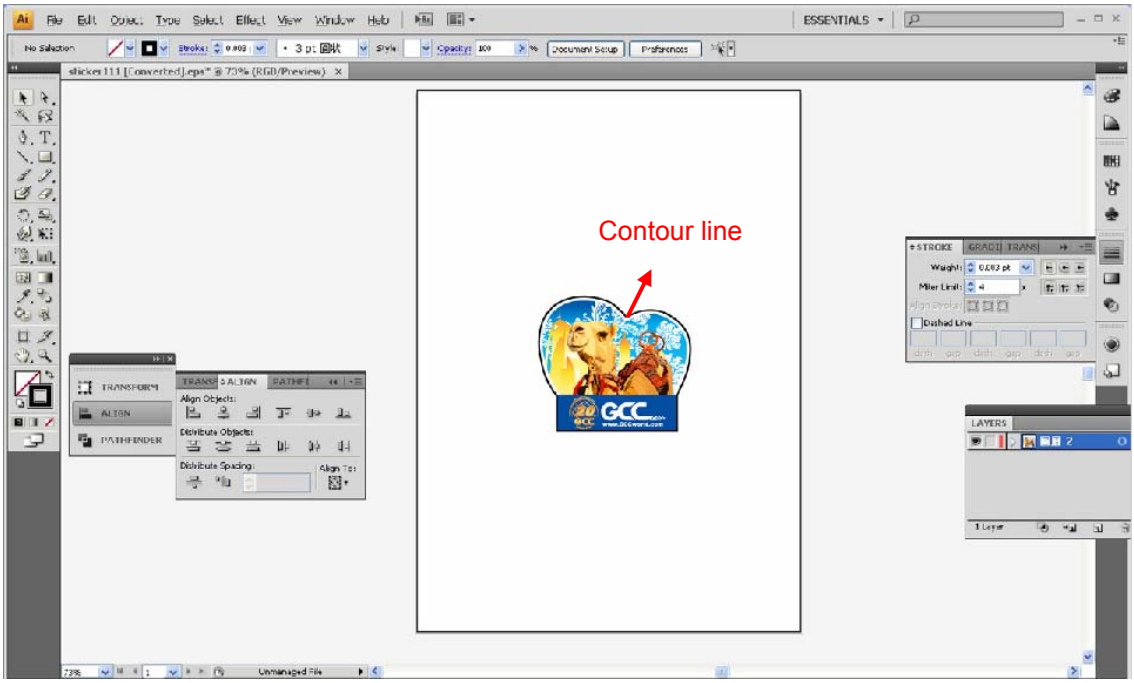
1. Check the “AAS Illustrator Installer” folder in Jaguar IV Installation CD, and double click the “AASIIInstaller.exe” file to run the installation program.

2. Press the “Install” button to begin installing GCC AASII Illustrator VBA.

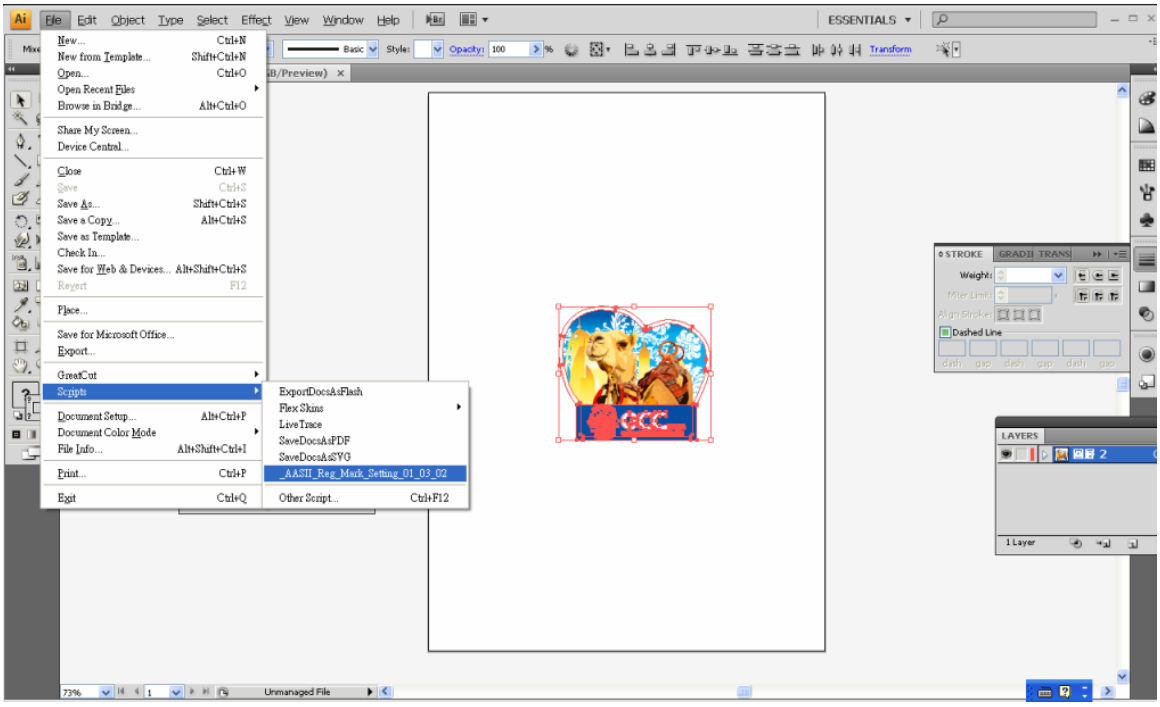
## User Instructions

1) Open Illustrator.

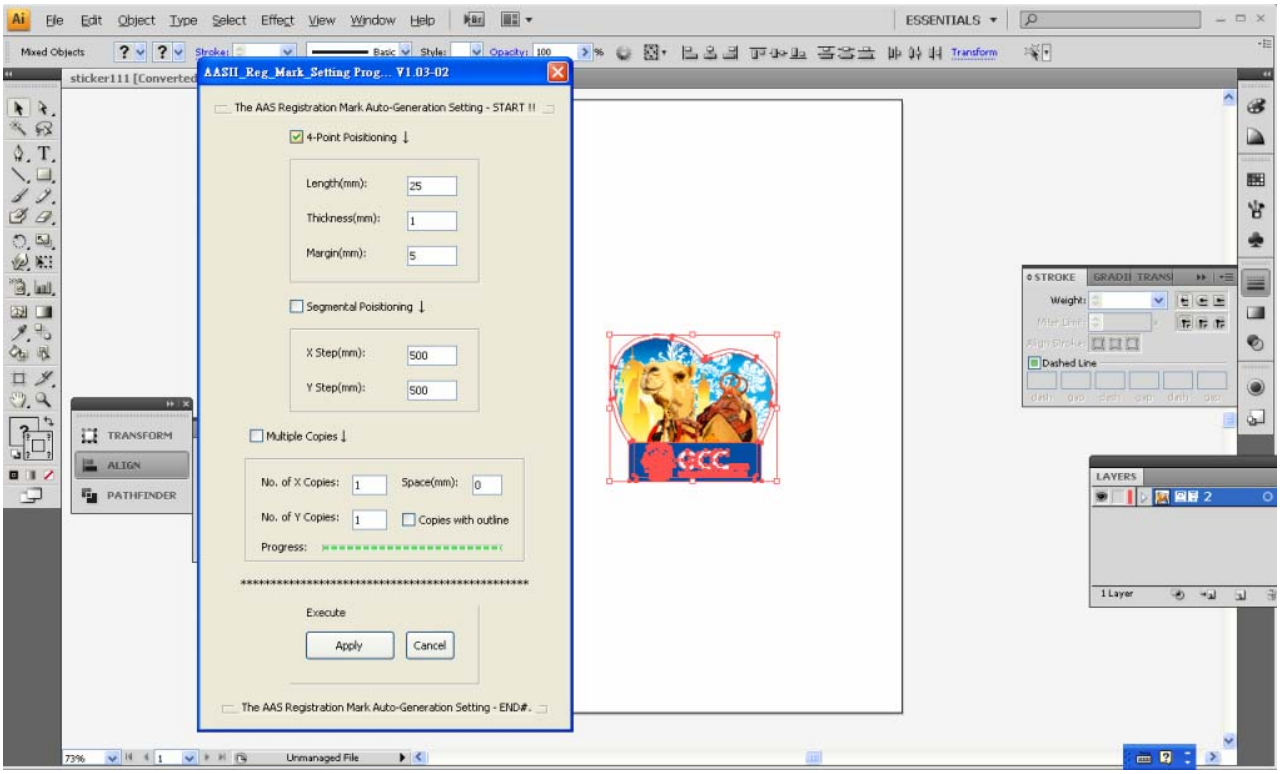
2) Edit your image and create a contour line (Note: you must have the line width set as 0.001mm).



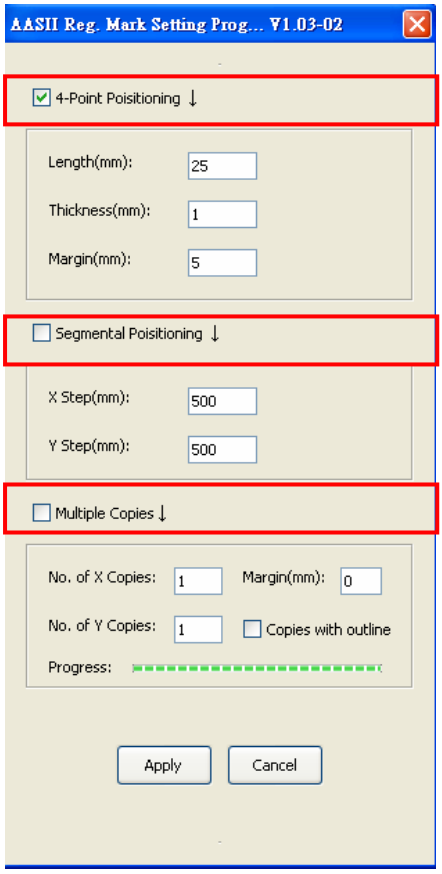

3) Click on the image and apply the AAS function (File→Scripts→_AASII_Reg_Mark_Setting_01_03_02)



4) Select the registration marks needed



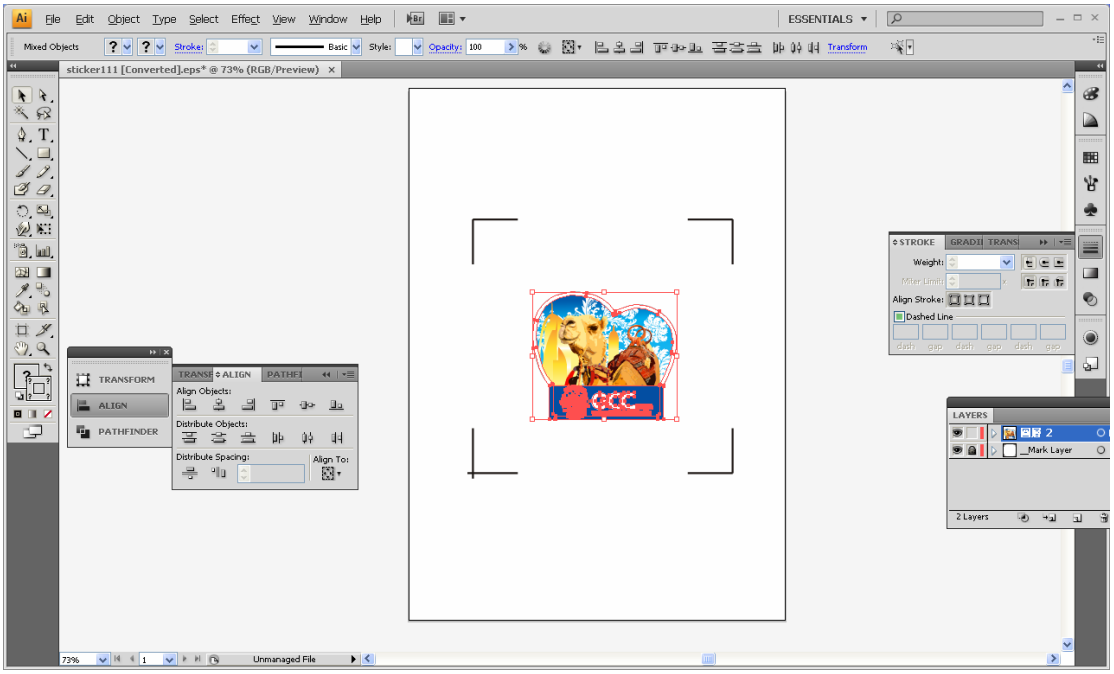

5) Three types of registration marks are introduced here: 4-Point Positioning, Segmental Positioning and Multiple Copies.



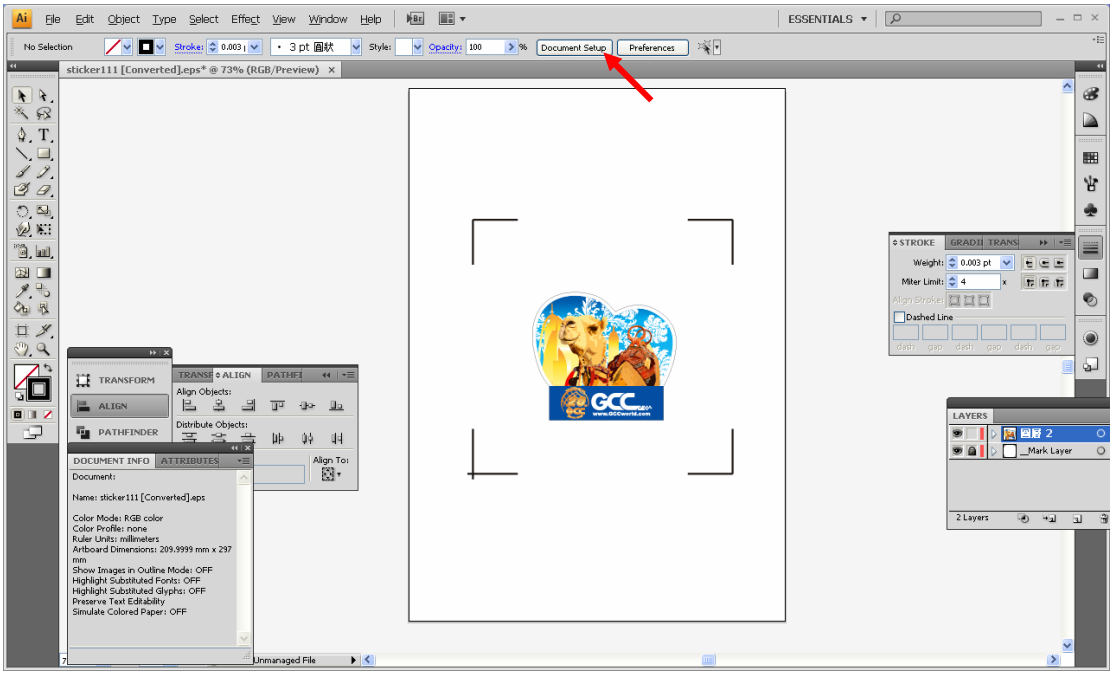

Note:

The values entered in the “4-Point Positioning” section (length, thickness and margin) will still be applied when you tick “Segmental Positioning” or “Multiple Copies”.

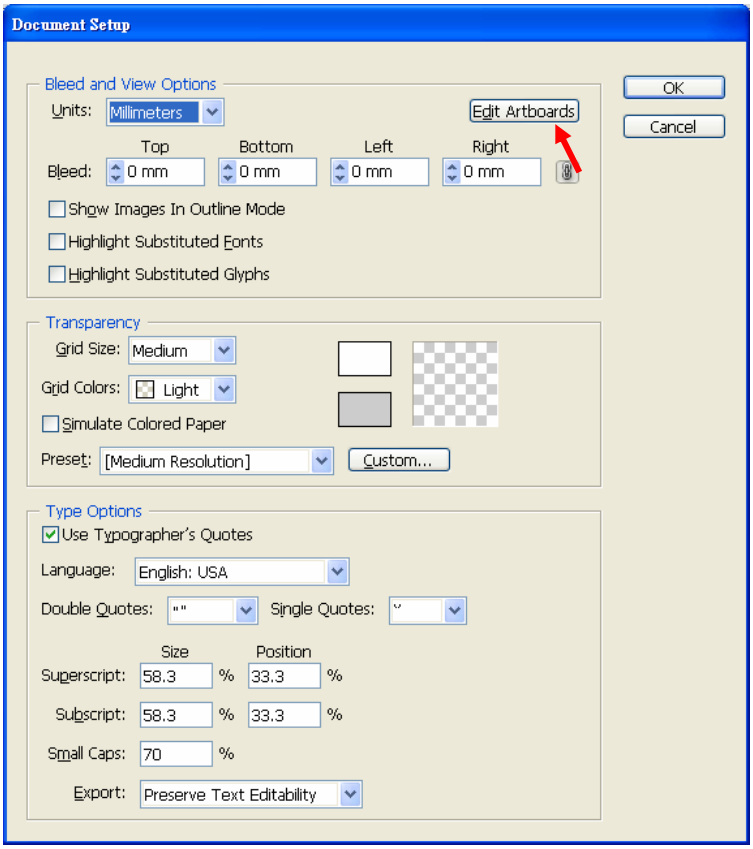
6) Confirm the registration marks (the 4-Point Position mark is used as an illustration in the following steps).



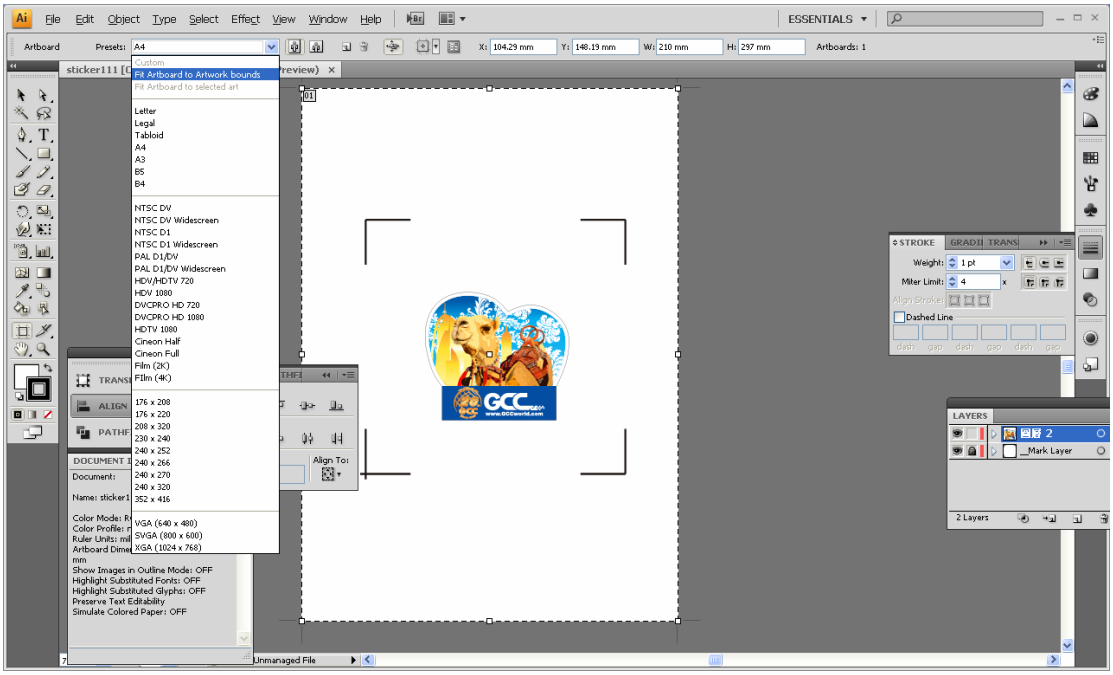
7) Click on the blank area on the page and then click “Document Setup”.



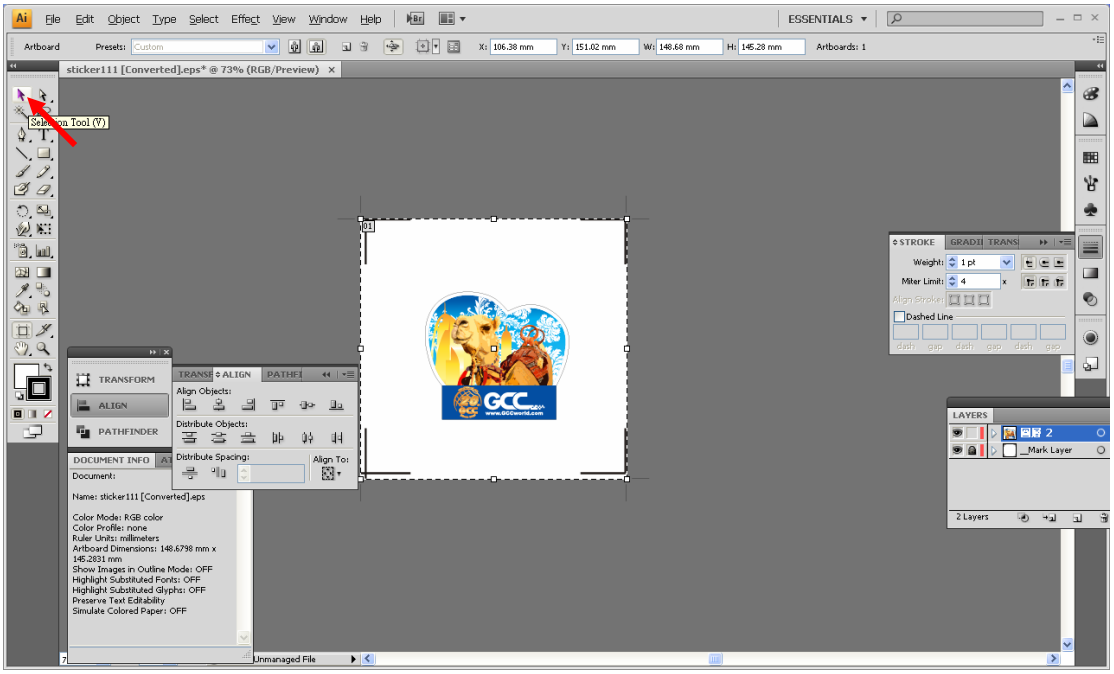
8) Hit “Edit Artboards”.



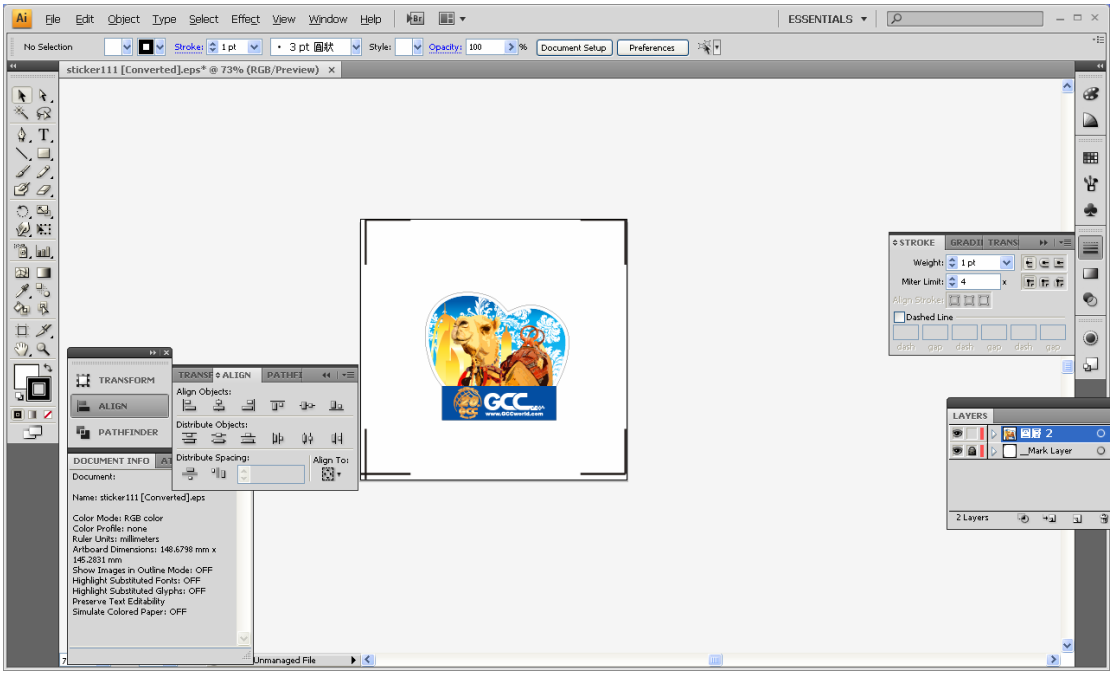

9) Click on “Presets → Fit Artboard to Artwork bounds”.



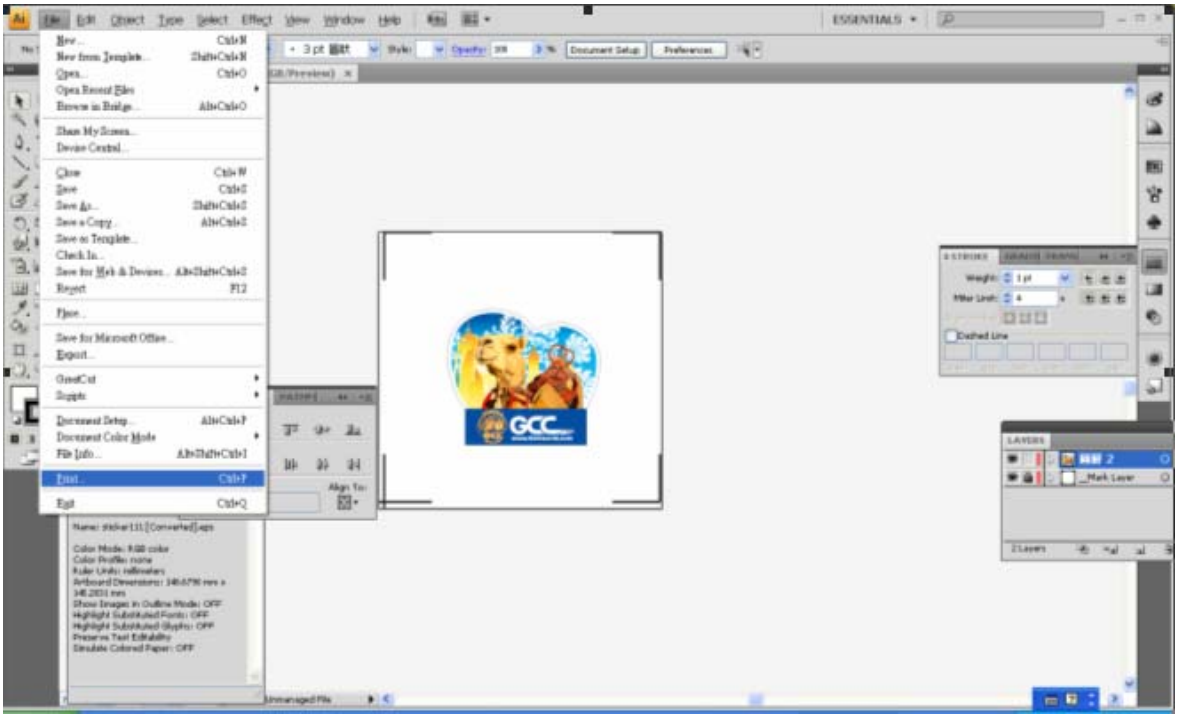
10) Please move your mouse to the tool bar on the left when step 10) is finished and then click “Selection Tool”.



11) This will take you back to the edit mode.

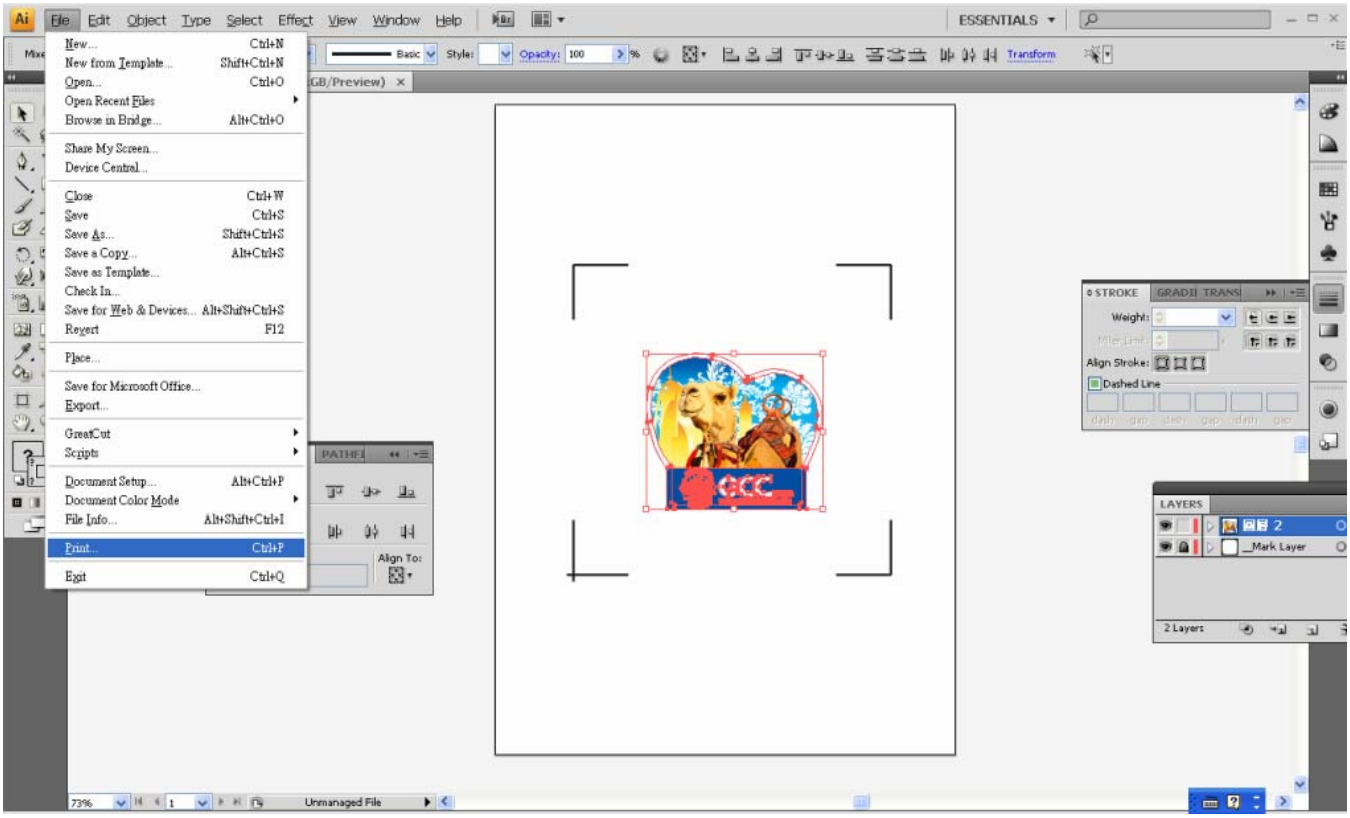


12) Print out the file with the contour line and the registration marks.

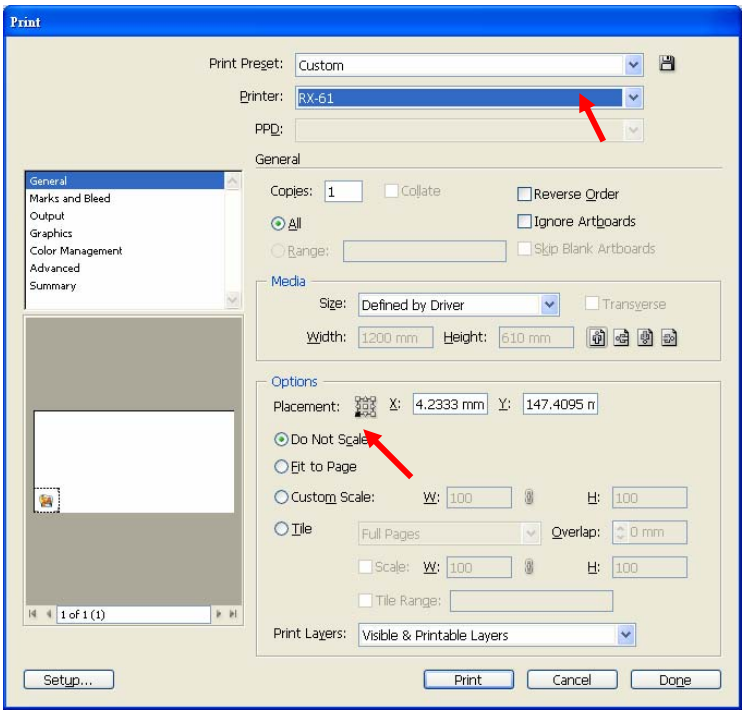


13) Place the printed file on the cutter, lower the pinch rollers and then position the carriage at the origin of the registration marks.

14) Send the file to the cutter.



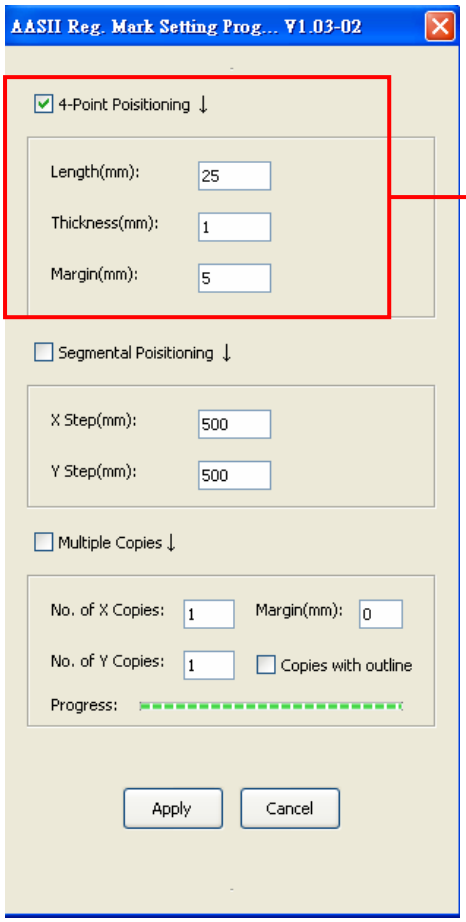
15) Select the cutter model, position the object in the bottom left corner and then click “Print”.




16) Your job is now completed.

# Three types of registration marks

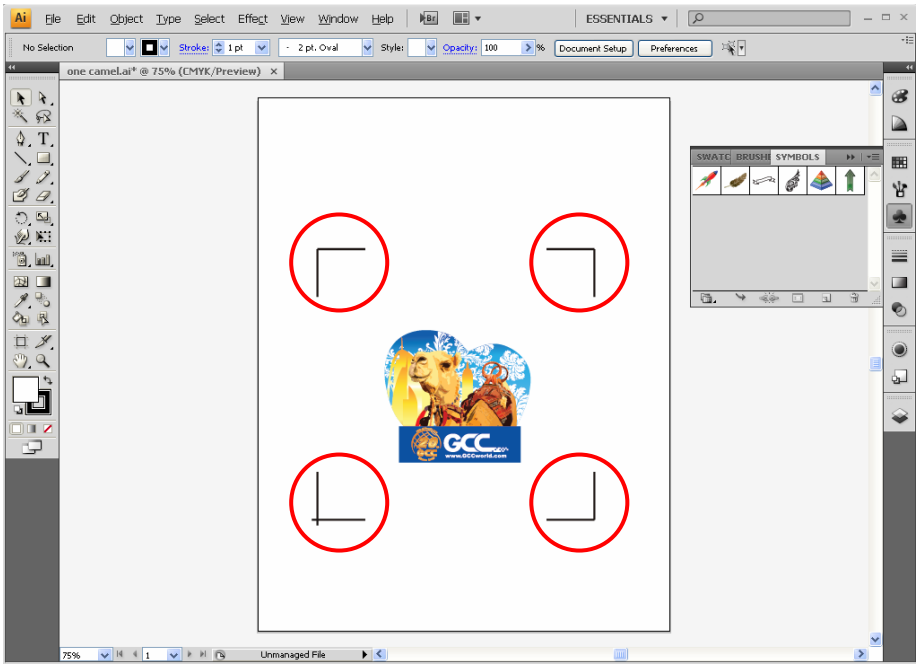
## 4-Point Positioning




**4-Point Positioning**

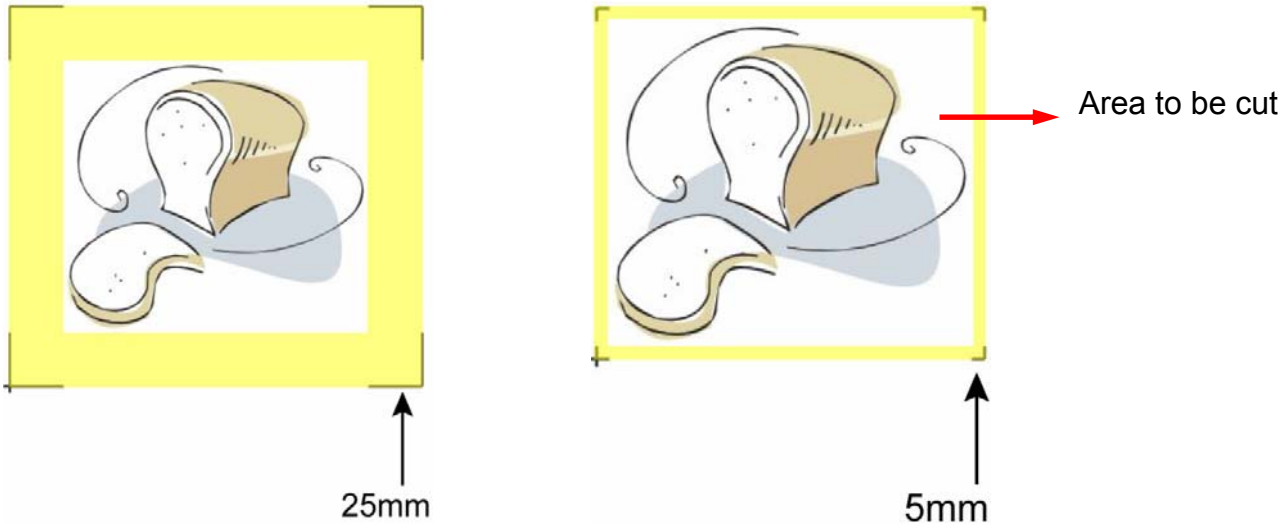
- Length: The length of marks
  → Range: 5mm~50mm
  → Optimized Setting: 25mm
- Thickness: The line thickness of marks
  → Range: 1mm~2mm
  → Optimized Setting: 1mm
- Margin: The distance between marks and images
  → Range: 0mm~50mm
  → Optimized Setting: 5mm

The system will create the 4 marks as shown in the picture below.



Note:

1. To save your materials, in addition to amending object margins, you can also adjust the length of the registration marks (5mm minimum) when you apply 4-Point Positioning (see table 1 for suggestions based on different material sizes). The smaller the size is, the smaller the distance between the object and the registration marks is (see the figures below).



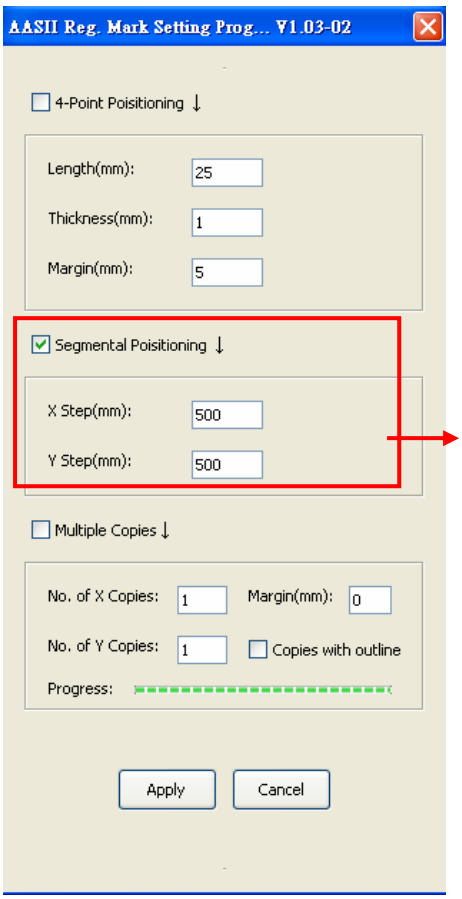

| Page size (unit: inch) | Suggested mark length (unit: mm) |
|---|---|
| A6 (4.13 × 5.83) | 5 |
| A5 (5.83 × 8.27) | 8 |
| A4 (8.27 × 11.69) | 11 |
| A3 (11.69 × 16.54) | 16 |
| A2 (16.54 × 23.39) | 23 |
| A1 (23.39 × 33.11) and above | 25* |

Table 1

*25mm is the suggested value for the registration mark length

2. The size of the registration marks would affect the accuracy of registration mark detection so please make sure the amount you enter is reasonable.

## Segmental Positioning

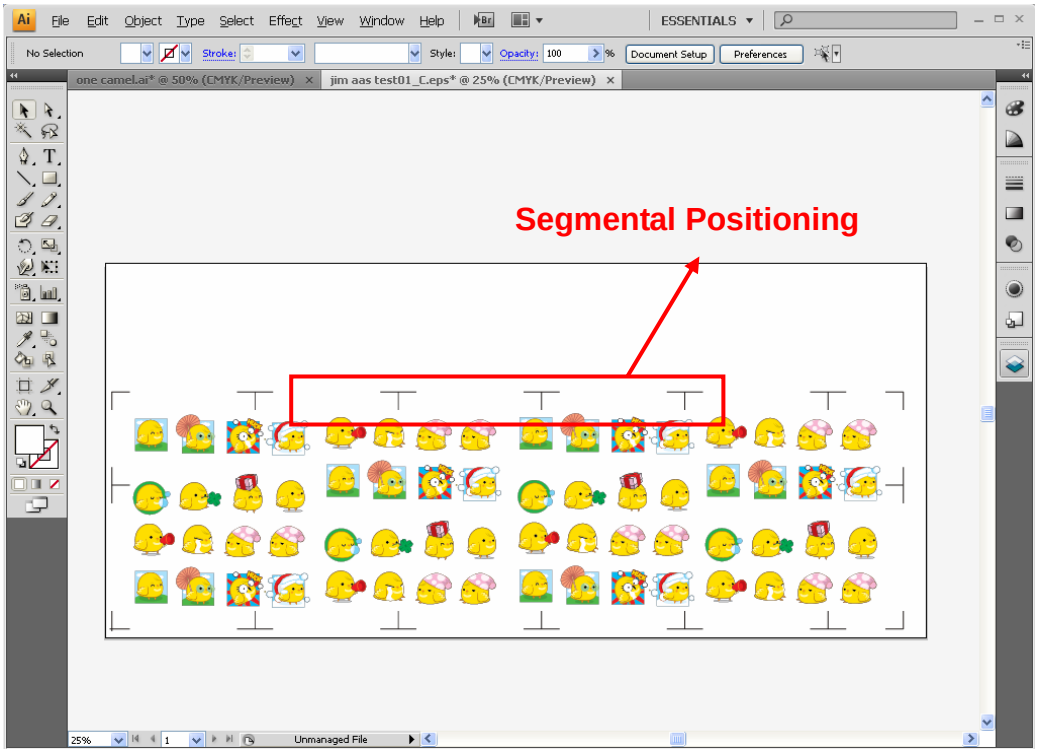



For precise cutting quality, it is suggested to select “Segmental Positioning” when you are working on an extra long or large-sized image to increase cutting accuracy.

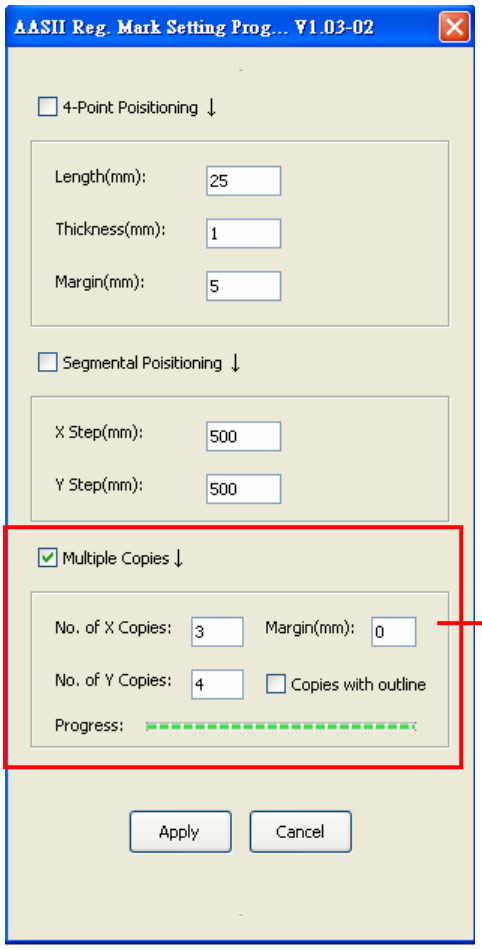
**Segmental Positioning**

- X Step: The distance of intermediate position on the X axis
- Y Step: The distance of intermediate position on the Y axis
  → Range: 200mm~600mm
  → Optimized Setting: Less than 500mm

The system will create the marks as shown in the picture below

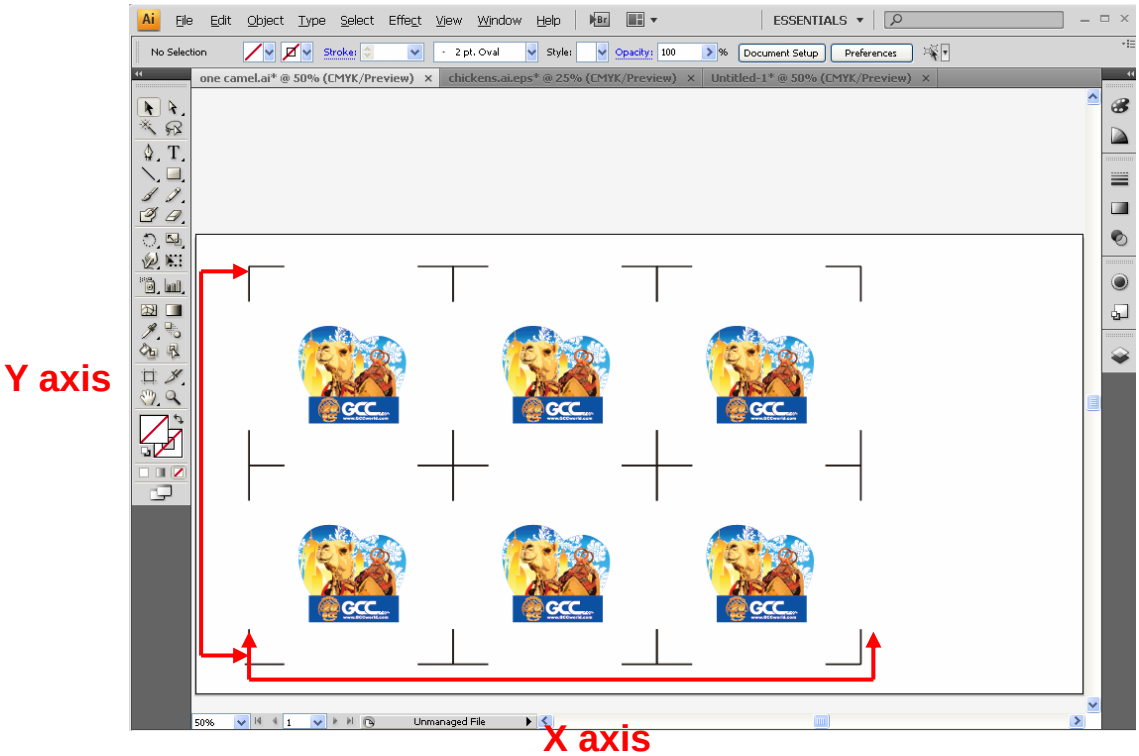


## Multiple Copies




It is suggested to select “Multiple Copies” when you would like to make several copies of one image on your material to increase cutting accuracy.

### Multiple Copies

- No. of X Copies: The numbers of copies on X axis
- No. of Y Copies: The numbers of copies on Y axis
  → Range: 1~50. (The more copies you make, the more time is needed for data transmission.)
  → Numbers of X Copies * Numbers of Y Copies = The total amount of image copies
- Copies with outline：To show outlines of image graphics
- Margin: Space between marks; must be 0 or ≧ 20, no negative numbers allowed

The system will create the as shown in the picture below.