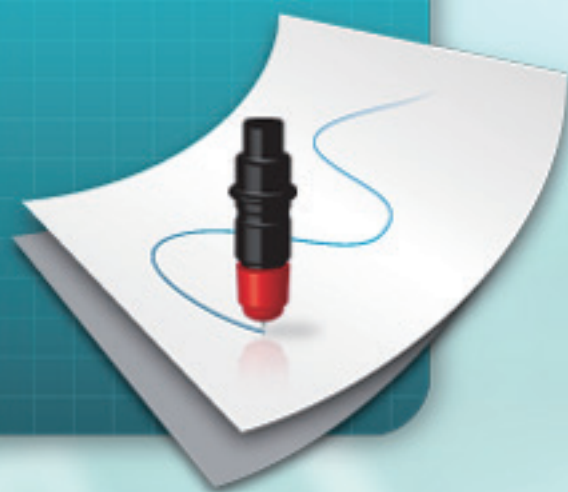


**GRAPHTEC**

***CM5***  
**Cutting Master 5**

**USER'S MANUAL**



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In addition, the screens and function names that have been provided is subject to change without notice.

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# *Chapter 1 Introduction Topics*

---

## **PRODUCT SUMMARY**

*1.1 Introduction*

*1.2 System Requirements*

# 1.1 Introduction

---

Cutting Master 5 is a plug-in software that works directly from Illustrator and CorelDRAW to the cutting plotter. This software has various features necessary to set the cutter settings, Tiling, and Zoom capabilities.

Cutting Master 5 includes a couple of additional components that are offered as an application software, called "Remote Panel Utility" and "Data Link Server."

"Remote Panel Utility" can be controlled by the PC, which means that the cutter will execute cutting or plotting instructions, issued. This allows the cutter to be easily saved and loaded for file management.

"Data Link Server" can be used to save barcode information for roll media, this allows the cutter to scan a barcode printed on media to find corresponding data and then send the data to the cutter.

This option is very useful when cutting Sequential Print & Cut files on roll media.

Please note not all functions are available on all models.



## 1.2 System Requirements

---

Cutting Master 5 requires the following system environments:

### <Windows>

#### Supported OS

Windows 11 (Home / Pro / Enterprise / Education)

Windows 10/Windows 10 x64 Edition (Home / Pro / Enterprise / Education)

Windows 8.1/Windows 8.1 x64 Edition (Windows 8.1/ Pro/ Enterprise)

#### Supported Applications

Adobe Illustrator CC / CC2014 / CC2015 / CC2015.3 / CC2017 / CC2018 / CC2019 / 2020 / 2021 / 2022

Corel CorelDRAW Graphics Suite X7 / X8 / 2017 / 2018 / 2019 / 2020 / 2021 / 2022

\*You cannot use editions other than Graphics Suite, such as Home and Student / Standard / Essentials / Technical Suite.

### <Mac>

Supported operating systems (64Bit PC only)

Mac OS X 10.10 – 10.11 / macOS 10.12 – 10.15 / 11 / 12

#### Supported Applications

Adobe Illustrator CC2014 / CC2015 / CC2015.3 / CC2017 / CC2018 / CC2019 / 2020 / 2021 / 2022

Please check our website for the latest supported OS and application.

# *Chapter 2 Installation Guide*

---

## **PRODUCT SUMMARY**

### *2.1 Installation and Setup Steps*

## 2.1 Installation and Setup Steps

Cutting Master 5 can be downloaded from the Graphtec website.

<http://www.graphteccorp.com/support/index.html>

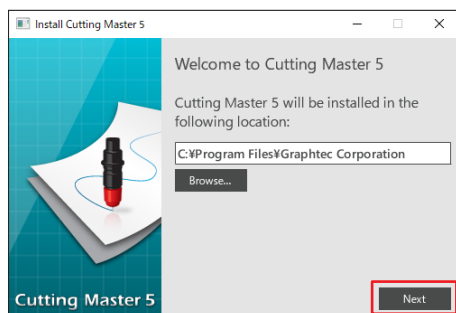
After downloading, follow the procedure below to install the software.

### ⚠ CAUTION

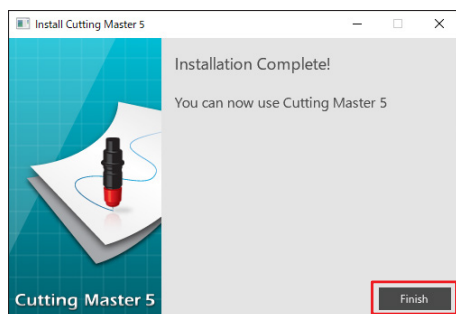
- Before installing Cutting Master 5 on a PC running Windows environments, make sure that the user has administrator privileges.
- Make sure that Illustrator or CoreIDRAW is not running before installing.

### <Windows>

1. Download "CM5\_x.x.x\_WA\_S.zip" from our website.  
\* "x.x.x" represents the version number.
2. Unzip the "CM5\_x.x.x\_WA\_S.zip" downloaded you downloaded.
3. Double-click the "CM5\_x.x.x\_WA\_S.exe" file is created after extracting.
4. The User Account Control (UAC) prompt appears.  
Click on the "Yes" button.
5. The following installation window will appear.  
If you want to change the location for a particular folder, click the corresponding "Browse" button.  
Click on the "Next". Then, start the installation process.



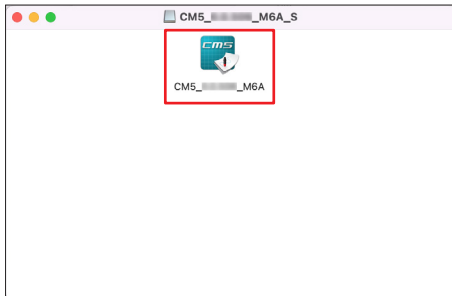
6. Click on the "Finish" button.



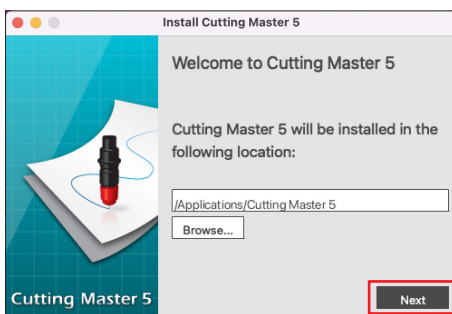
Installation process is completed.

**<Mac>**

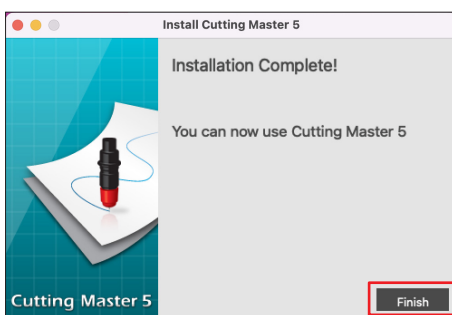
1. Download "CM5\_x.x.x\_M6A\_S.zip" from our website.  
When you download this file, it will be automatically decompressed to "CM5\_x.x.x\_M6A\_S.dmg".  
If it is not automatically decompressed, double-click "CM5\_x.x.x\_M6A\_S.zip" to decompress it.
2. Double-click the "CM5\_x.x.x\_M6A\_S.dmg".
3. Double-click the "CM5\_x.x.x\_M6A".



4. Confirmation screen for using the application downloaded from the Internet will be displayed. Click the "Open" button.
5. Enter an administrator's "user name" and "password", then click "OK".
6. If you want to change the location for a particular folder, click the corresponding "Browse" button. Click on the "Next". Then, start the installation process.



7. Click on the "Finish" button.



Installation process is completed.

# Chapter 3 Basic Operation

---

## **PRODUCT SUMMARY**

- 3.1 *How to Start Cutting Master 5*
- 3.2 *Cutting Master 5 Menu*
- 3.3 *Registration Marks Menu*
- 3.4 *Add a New Cutter*
- 3.5 *Edit the Existing Cutter*
- 3.6 *Remove the Existing Cutter*

## 3.1 How to Start Cutting Master 5

---

Cutting Master 5 and Registration Marks (Barcode) menu for Illustrator or CorelDRAW creates and starts as an extra menu under the File menu.

### <Illustrator>

#### Cutting Master 5

Go to File menu, select "Cutting Master 5" and "Send to Cutting Master 5".

#### Registration Marks/Barcode Menu

Go to File menu, select "Cutting Master 5", then "Registration Marks".

### <CorelDRAW>

#### Cutting Master 5

Go to the toolbar, select "Launch", then "Cutting Master 5".

\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.

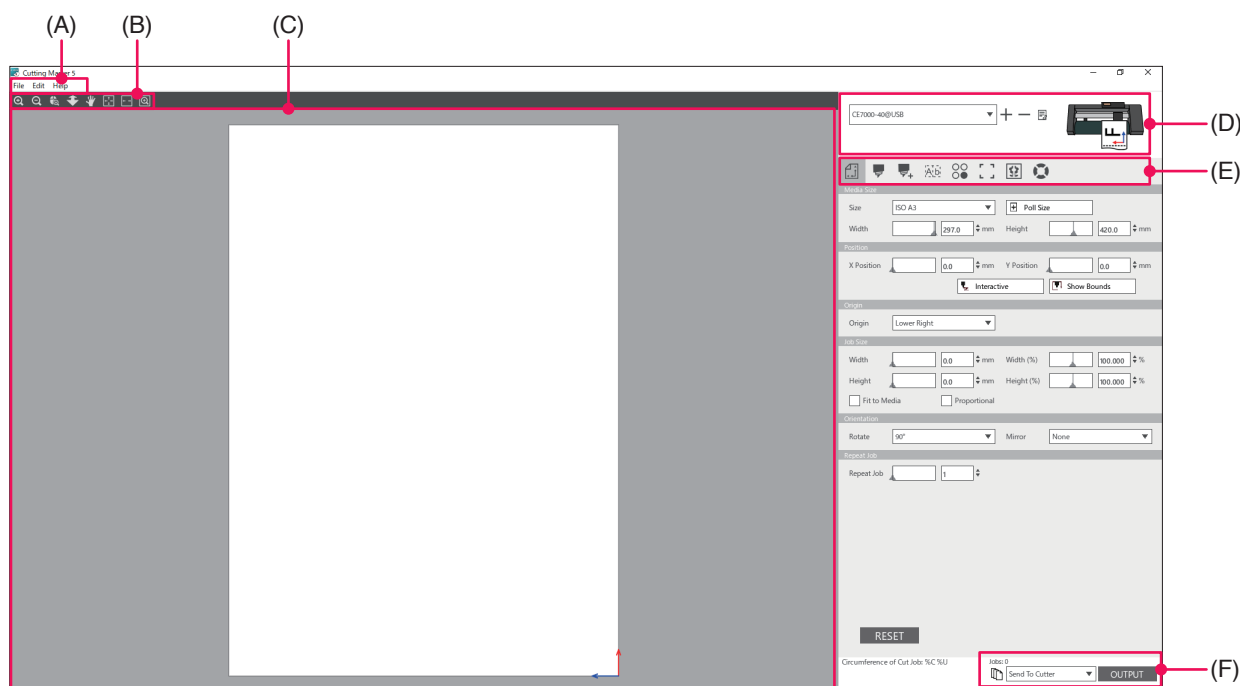
#### Registration Marks / Barcode Menu

Go to the toolbar, select "Launch", then "Registration Marks (CM5)".

\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.

## 3.2 Cutting Master 5 Menu

You can preview the job as well as information about the file and configure cutting conditions to be sent to the cutting plotter in the Cutting Master 5 screen.



### (A) Menu bar

- File: The File option will allow you to open the existing cut job files you want to select from your computer and exit Cutting Master 5.
- Edit: This lets you make the settings for the unit of measurement and edit language settings.
- Help: This displays the Cutting Master 5 version information and download web site with the latest user's manual.

### (B) Tool bar

This moves the object in the Preview window to its destination position. and enlarges or reduces the view of the cutting image.

### (C) Preview window

This displays the size and cutting data of the media.

Before you perform cutting, you can check the cutting data and configure settings such as the size and orientation of the media on your computer.

### (D) Cutter Model used

This displays a cutting plotter name and image icon to use.

This lets you add, edit and delete the cutting plotter to use.

### (E) Output Setting Tab

This sets the cutting data sent to the cutting machine.

Cutting Master 5 consists of eight tabs used to configure the cutting condition settings or operating functions.

- General tab: This section allows you to manually configure position and size, such as basic zoom-in or zoom-out and rotation functions.
- Option tab: This section configures cutting conditions, such as the blade force, and perforated cutting conditions. You can schedule cuts by line color, fill color, or by layer.
- Advance tab: This section offers specialized cutting options, such as controlling the cutting order or cutting direction of your job.

- Weed tab: This Weed Line option creates a frame that surrounds the selected object in order to facilitate weeding the cut.
- Matrix Copy tab: This Matrix Copy option arranges and cuts any number of objects you have designed on a single piece of this minimizes media waste.
- Registration Marks tab: This Registration Marks option provides adjust the registration marks function ,such as setting the values of margins and registration marks for different media sizes.
- Tiling tab: This allows you to take data that is too large to fit a single piece of media and outputs it divided among a number of pieces of media.
- Plotter Information Tab: Used to start the info Display and Remote Panel Utility of the cutting plotter when it is connected.

#### (F) Output Button

The cut data is sent to the cutting plotter selected in Model window.

In addition, the transmit Type performs output of the cut data by selecting 3 Type according to the application and pressing the "OUTPUT" button.

"Send To Cutter"

Send cut data to the cutting plotter.

"Send To Data Link Server"

Send cut data to "Data Link Server".

Select this to perform continuous operation using Roll Media Barcode.

**\*Only supported Model can be selected.**

"Save To File"

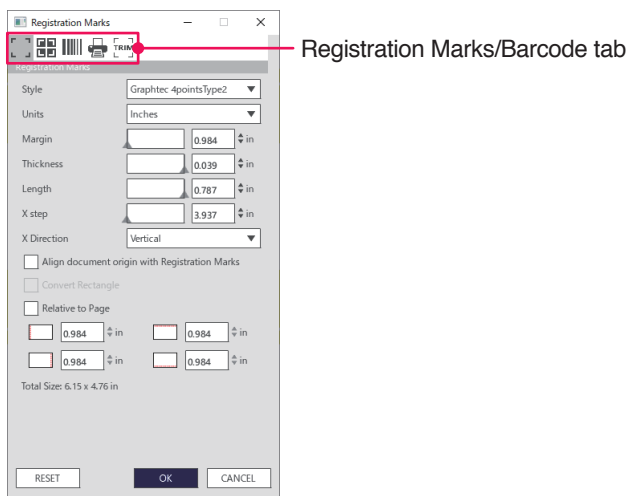
This saves the cut data to File.

Select to create an XPF File or plotted File for offline OUTPUT using the USB flash drive.



## 3.3 Registration Marks Menu

This lets you make the settings for the Registration Marks and Barcode for frequently used print & cut jobs.



### Registration Marks/Barcode tab

Registration Marks screen consists of five tabs used to configure the settings for the items shown below.

- **General tab:** This Registration Marks option allows adjusting the registration marks function, such as Registration Marks types, Size, and Origin Position.
  - **Color tab:** This function is used for placing lines on top of registration marks and this can be used in combination with the colors around the square the registration marks.
  - **Barcode tab:** This sets the types, lengths and location of the Barcode.
  - **Printer Margins tab:** This option is used on printed rolls with barcode. To set the barcode position.
  - **Trim Marks tab:** This sets the type and size of the Trim marks.
- \* It appears only when starting the Registration Marks screen from Illustrator.

## 3.4 Add a New Cutter

This lets you set up a new cutter to use as the output destination for cutting data.

### <How to add a new cutter when using Auto Search>

Simply click the Auto Search button and set the identified cutter to the computer that is connected.

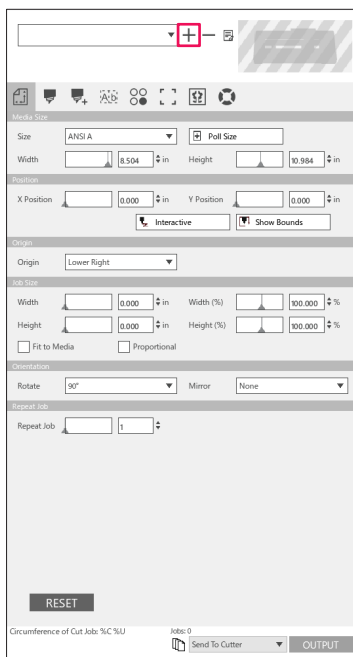
In order to use Auto Search, make sure that the cutting plotter is connected to the computer by using USB or LAN cable.

#### Supplement

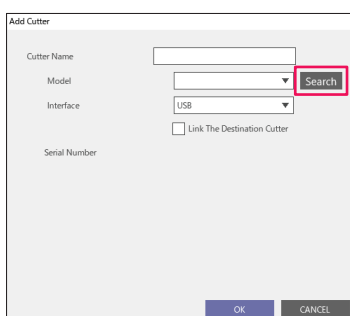
- If you wish to use an Ethernet connection, you need to configure the cutting plotter to communicate with your LAN.
- If you wish to use an Ethernet connection, ensure that both PC and the cutting plotter are connected to the same network segment.
- If the cutting plotter is connected to the computer with RS-232C connection only, then Auto Search option will not work.

1. Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send to Cutting Master 5" from File menu.  
For CorelDRAW, select "Launch", then "Cutting Master 5" toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.

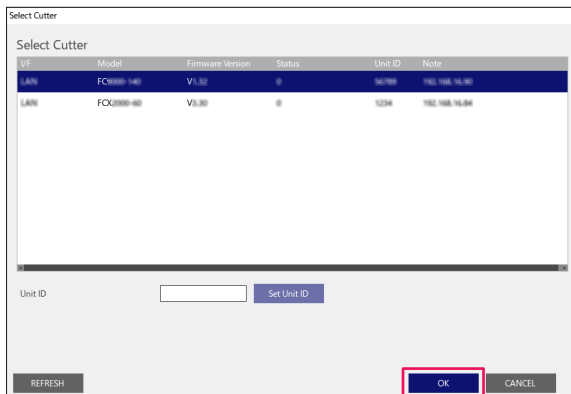
2. Click on the " + " icon.



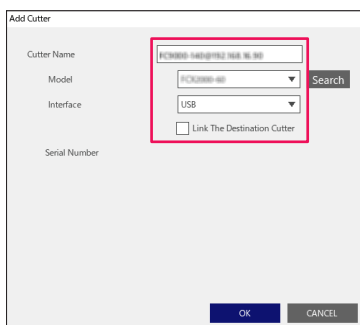
3. The "Add Cutter" dialog box will appear on the display. Press the "Search" button.



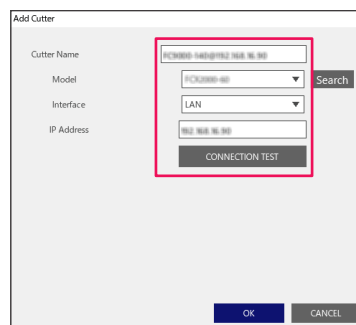
- The "Select Cutter" dialog box will appear on the display.  
Available cutters will be listed that can be connected to the computer by using USB or LAN cable connection.  
Select the cutter that you want to connect and press "OK".



- The selected cutter appears in the "Add Cutter" dialog box.  
If you select USB connection, "Link The Destination Cutter" will appear on the display.  
When you try to connect to multiple cutters with the same model, check the box in front of "Link The Destination Cutter".  
For LAN connectivity, "Connection Test" button is displayed.  
If you check to confirm the communication status with the cutter, press "Connection Test" button.  
You may change the "Cutter Name", if needed.



USB Connectivity



LAN Connectivity

- Press the "OK" button.  
The cutter setup process is now completed.

### <How to add a new cutter without using Auto Search function>

You need to set the cutting plotter or interfaces to be connected manually.

- Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send to Cutting Master 5" from File menu.  
For CorelDRAW, select "Launch"->"Cutting Master 5" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.

2. Click on the "+" icon.



3. The "Add Cutter" dialog box will appear on the display. Click the drop-down arrow for "Model", and then select the cutter that you want to connect. Click the drop-down arrow for "Interface", and then select Interface Types.

If you select USB connection, select the "USB".

If selected, the "Link The Destination Cutter" will appear on the display.

When you try to connect to multiple cutters of the same model, check the box in front of "Link The Destination Cutter".

If LAN is selected, select the "LAN".

If selected, the "IP Address" is displayed. Just connect the cutter and write down the IP address.

Also, the "CONNECTION TEST" button is displayed.

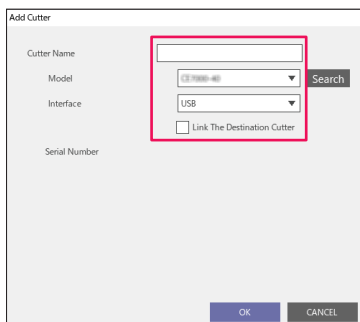
The "CONNECTION TEST" button is pressed to confirm the communication status with the cutter after IP address is entered.

If RS-232C is selected, select the "RS-232C".

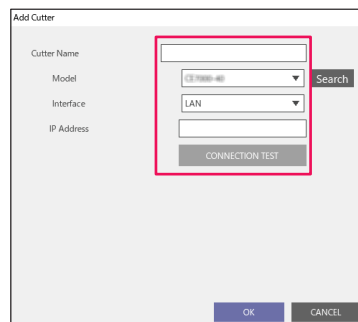
If selected, "Port", "Baud Rate", "Data Bit", "Parity" and "Handshake" are display.

Make sure that your cutting plotter is configured for the same baud rate, parity and data bit as your computer's serial port.

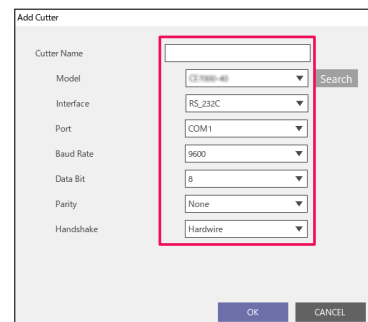
You may change the "Cutter Name", if needed.



USB Connectivity



LAN Connectivity



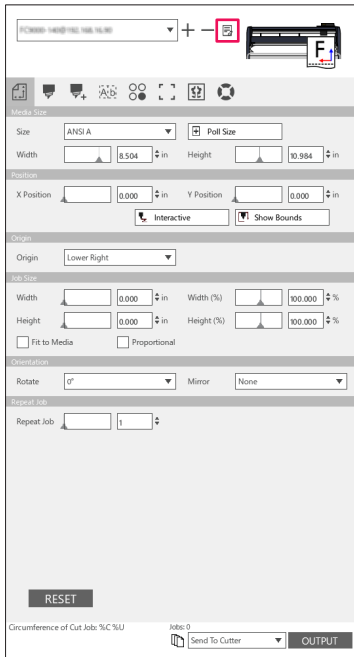
RS-232C Connectivity

4. Press the "OK" button. The cutter setup process is now completed.

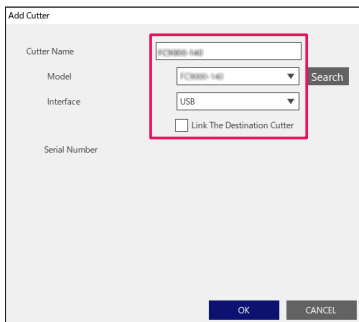
## 3.5 Edit the Existing Cutter

This will allow you to adjust your cutter settings.

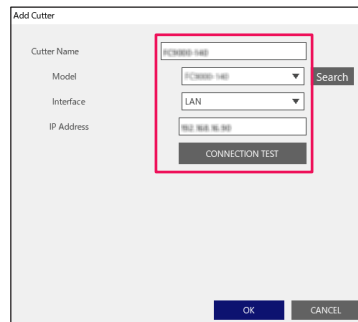
1. Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5"->"Send To Cutting Master 5" from File menu.  
For CorelDRAW, select "Launch"->"Cutting Master 5" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.
2. Select the cutting plotter which you want to change the setting, click on the "🖨️" icon.



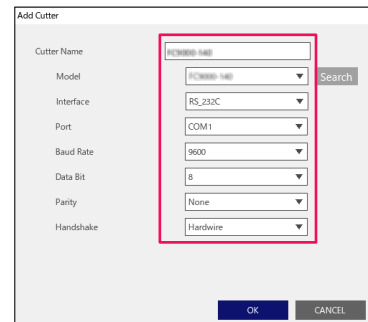
3. The "Add Cutter" dialog box will appear on the display.  
Reconfigure the settings to be changed for different types of interfaces or cutter model.



USB Connectivity



LAN Connectivity



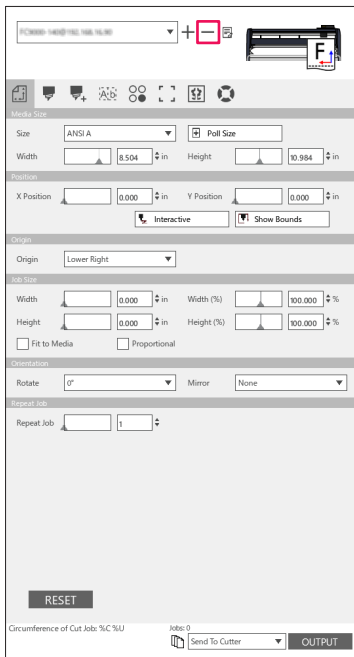
RS-232C Connectivity

4. Press the "OK" button.  
Configuration changes have been completed.

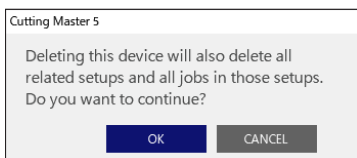
## 3.6 Remove the Existing Cutter

This is used to delete a connected cutting plotter.

1. Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send to Cutting Master 5" from File menu.  
For CorelDRAW, select "Launch", then "Cutting Master 5" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.
2. Select the cutter that you want to remove and click on the " — " icon.



3. A Delete confirmation window will appear.



4. Press "OK" button.  
The deletion has been completed.

# Chapter 4 *Operation with Barcode and Data Link Server Feature*

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## **PRODUCT SUMMARY**

- 4.1 *Basic Workflow for Registration Marks*
- 4.2 *Basic Workflow for Print and Cut with Barcode*
- 4.3 *Data Link Workflow for Continuous Cutting (Barcode Data Management)*

## 4.1 Basic Workflow for Registration Marks

This section explains the flow from creation of registration mark to cutting when a dedicated application is used.

Step1. Create registration mark data.

Step2. Create design data for printing and cutting.

Step3. Print design data.

Step4. Cut the printed media.

### Step1. Create registration mark data.

Print & Cut uses Registration Marks to get an accurate picture of the print Position and cut Position.

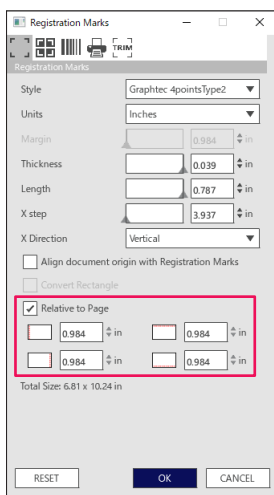


A margin is necessary around the registration marks.  
The margin may be different depending on the cutter you want to use, refer to the User's manual.

### Operation

Creates a Registration Marks for printing and cutting.

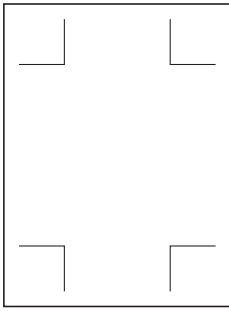
1. Start "Registration Marks" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Registration Marks" from File menu.  
For CorelDRAW, select "Launch ", then "Cutting Master 5 Registration Marks" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.
2. The "Registration Marks" screen will appear on the display.  
"General" tab allows you to manually specify the various registration mark types, line thickness, and length.  
Check the box in front of the "Relative to Page", then enter the distance between the edge of the media and registration marks position.



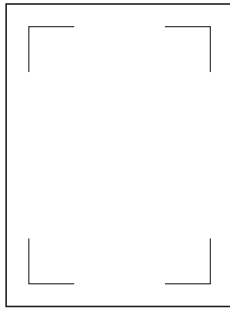
\* The following is the screen that appears when using Adobe Illustrator.



- Press "OK" button.  
Registration marks are created on the design screen.



Registration Marks Type 1



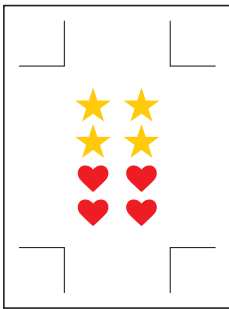
Registration Marks Type 2

### ***Step2. Create design data for printing and cutting.***

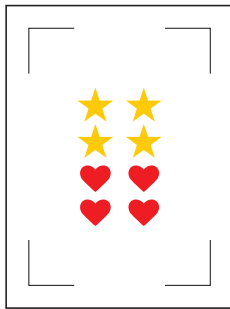
Design the drawing pattern that you want to print and the contour to be cut.

#### **Operation**

- Create the design to print for printing and cutting.

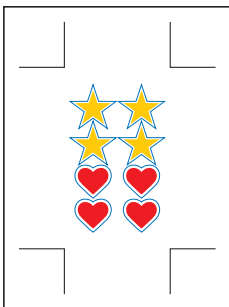


Registration Marks Type 1

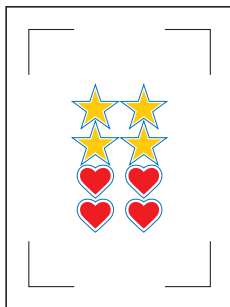


Registration Marks Type 2

- Create the contour cut lines to be cut for printing and cutting.  
It is recommended that the cut design is created on a layer different from the print design.



Registration Marks Type 1



Registration Marks Type 2

### Step3. Print design data.

After creating the design data, print it on the media.

#### Supplement

Pay attention to the following points. It may cause registration mark reading errors to occur and may not cut properly.

- Set the enlarge/shrink scale to 100%.
- Set the printing position (center/lower left etc.) so that the positional relationship between the created document and the printed result is the same.

#### Operation

Print design data for printing and cutting.

1. Print using the Adobe Illustrator or CoreIDRAW function.  
Set the layer of cut data to hide before printing.

### Step4. Cut the printed media.

Cut the printed media with the cutting plotter.

#### Operation

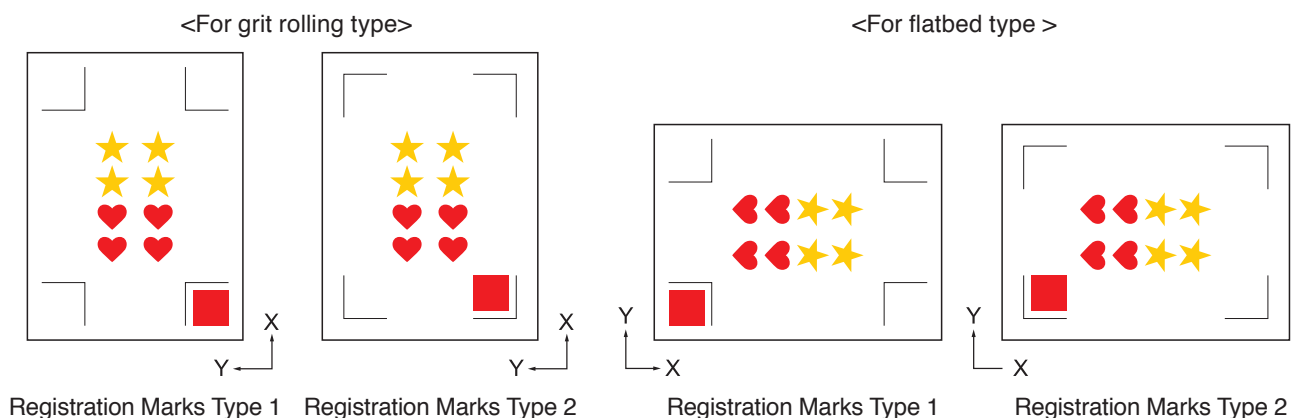
1. Load the Printed Media on the Cutting Plotter.

#### Supplement

For details on how to load media, refer to User's Manual on the cutting plotter device.

2. Using the cutting plotter's POSITION ( $\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$ ) key, move the tool to the registration mark (within the red rectangle).

\* Do not press Origin

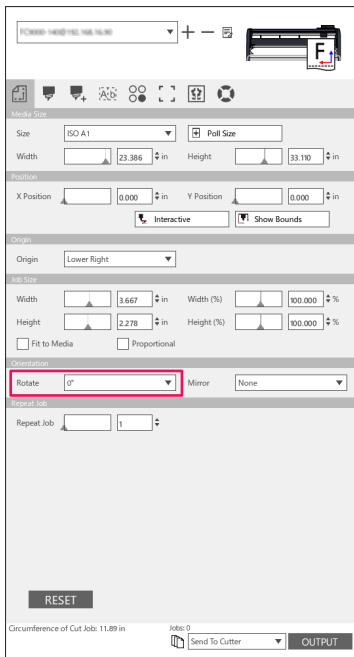


#### Supplement

- For CE LITE-50, refer to USER'S MANUAL of the main unit.
- If you encounter Registration Marks read errors, review Setting associated with Registration Marks.

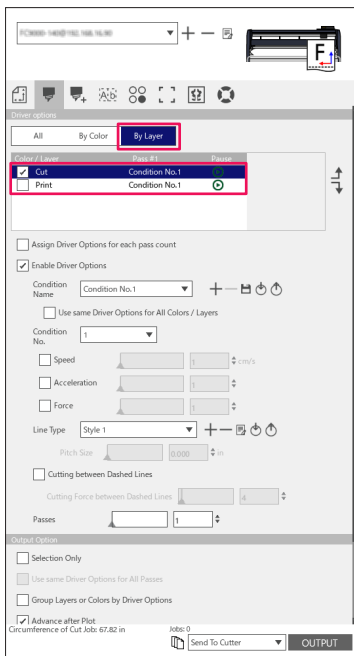
3. Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send To Cutting Master 5" from File menu.  
For CoreIDRAW, select Start "Launcher", then "Cutting Master 5" from the toolbar.  
\* Before selecting the "Send To Cutting Master 5" or "Cutting Master 5", set the layer of printing data to hide.  
\* If you are using CoreIDRAW X7, select "Launch" from the menu.

4. Go to "General" tab.  
In order to match the orientation in which the media has been loaded, set Rotate to "0°".

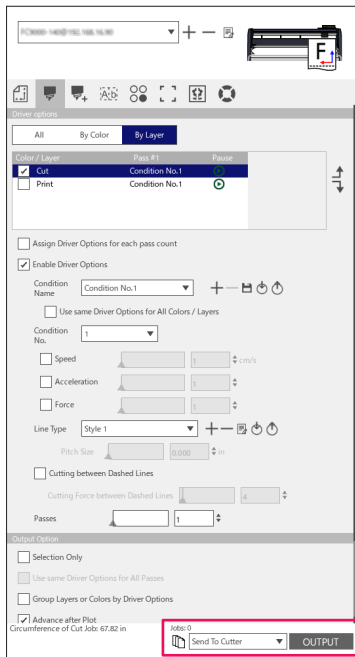


The Rotate can be set only when using 4POINTS.  
For other registration marks, load the media according to the orientation of the preview.

5. Select "Option" tab.  
Select "By Layer" to check only the layers that you want to cut.



6. Select "Send To Cutter", press "OUTPUT" button.  
Registration marks are scanned. Cutting starts when all registration marks are detected.



## 4.2 Basic Workflow for Print and Cut with Barcode

This section describes how to print and cut with the data link function of the cutting plotter after creating a standard barcode in dedicated application.

The procedure to read the data linked to the barcode from the USB flash drive is explained.

Because the procedure differs for each application, refer to the instructions depending on application to be used.

This option will only be displayed on supported models.

Step1. Create registration mark data and design data for printing and cutting.

Step2. Add barcode data.

Step3. Print design data.

Step4. Save cutting data in USB flash drive.

Step5. Cut the printed media.

### **Step1. Create registration mark data and design data for printing and cutting.**

See "4.1 Basic Workflow for Registration Marks" to create design with registration marks for printing and cutting.

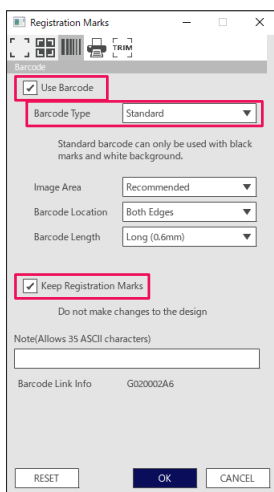
### **Step2. Add barcode data.**

It is necessary to add barcode data in order to link the printed data for printing and cutting with the cutting data saved in the USB flash drive.

#### **Operation**

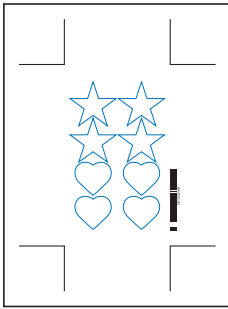
Create a barcode to use the data link function.

1. Start "Registration Marks" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Registration Marks" from File menu.  
For CorelDRAW, select "Launch", then "CM5 Registration Marks" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.  
\* Before selecting the "Registration Marks" or "CM5 Registration Marks", set the layer containing the printing data to be hidden.
2. The "Registration Marks" screen will appear on the display.  
Check the box in front of the "Use Barcode".  
Select the "Standard" from the "Barcode Type".  
Check the box in front of the "Keep Registration Marks".

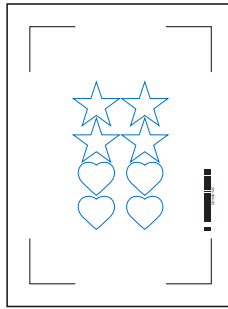


\* The following is the screen that appears when using Adobe Illustrator.

3. Press "OK" button.  
Barcode and Registration Marks are created on the design screen.



Registration Marks Type 1



Registration Marks Type 2

### **Step3. Print design data.**

After creating the design data, print it on the media.

#### **Supplement**

Pay attention to the following points. It may cause registration mark reading errors to occur and may not cut properly.

- Set the enlarge/shrink scale to 100%.
- Set the printing position (center/lower left etc.) so that the positional relationship between the created document and the printed result is the same.

#### **Operation**

Create the design data with the Standard Barcode included for printing and cutting.

1. Print using the Adobe Illustrator or CoreIDRAW function.  
Set the layer of cut data to hide before printing.

### **Step4. Save cutting data in USB flash drive.**

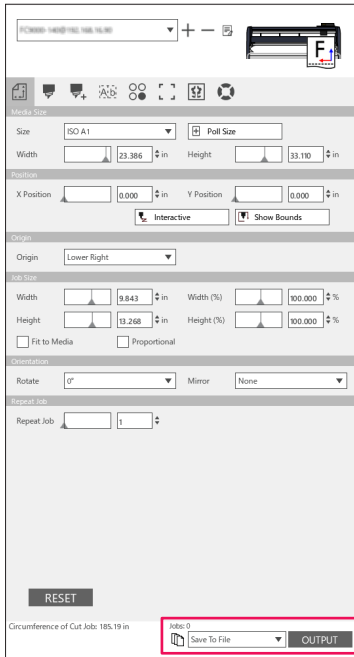
Create an XPF file (file dedicated to USB flash drive) and save it to USB flash drive.

When you save cutting data and barcode information in this XPF file, the cutting plotter will be able to find the correct cutting data.

#### **Operation**

1. Insert the USB flash drive into the computer.
2. Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send To Cutting Master 5" from File menu.  
For CoreIDRAW, select "Launch", then "Cutting Master 5" from the toolbar.  
\* Before selecting the "Send To Cutting Master 5" or "Cutting Master 5", set the layer of printing data to hide.  
\* If you are using CoreIDRAW X7, select "Application Launcher" from the menu.

3. Press the "Save To File", and press "OUTPUT" button.



4. When "Save As" screen is displayed, specify "USB memory" and save the "XPF file".  
\* You can move to USB flash drive after saving in any folder.

### Step5. Cut the printed media.

Using the cutting data saved in the USB flash drive, cut the media with the cutting plotter.

#### Operation

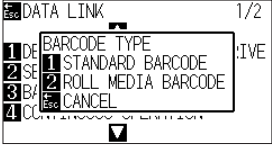

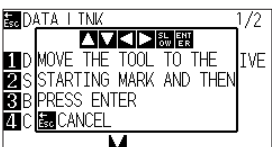
1. Load the Printed Media on the Cutting Plotter.



For details on how to load media, refer to User's Manual on the cutting plotter device.

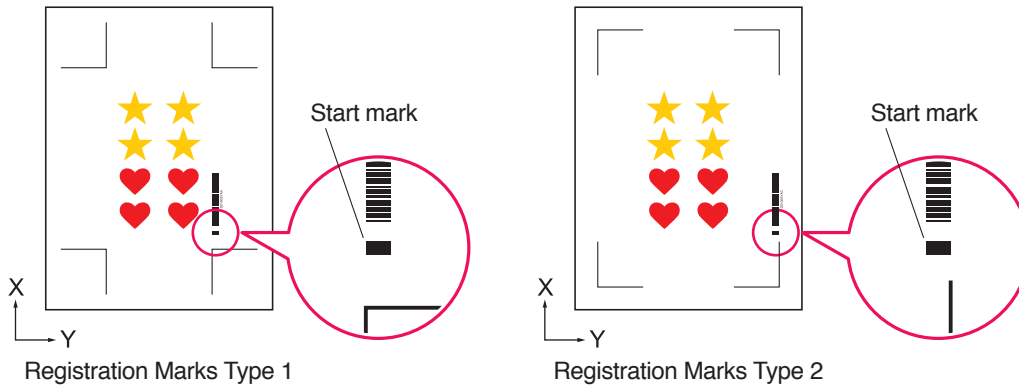
2. Insert the USB flash drive where the cut data was saved the USB flash drive slot of the cutting plotter.
3. Set the menu of cutting plotter.

	FC9000/CE7000	FCX2000/FCX4000
1	<p>Press the "PAUSE/MENU" key. "MENU" will appear on screen</p>	<p>Press the "PAUSE/MENU" key. "MENU" will appear on screen.</p>
2	<p>Press the "▶" key (LINK). "DATA LINK" (1/2) will appear on screen.</p> <p>* Make sure that your "DESTINATION" is "USB DRIVE"</p>	<p>Press the "▶" key (MEM.). The "OFF-LINE OPERATION" (1/1) will appear on screen.</p>

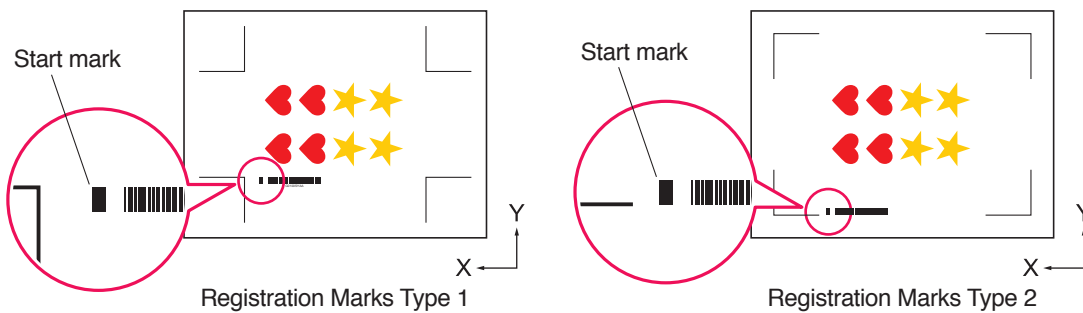
	FC9000/CE7000	FCX2000/FCX4000
3	Press the "3" key (BARCODE CUT). "BARCODE TYPE" menu will appear on screen. 	Press the "2" key (BARCODE CUT). "Tool movement" will appear on screen. 
4	"1" Press the key (STANDARD BARCODE). "Tool movement" will appear on screen. 	

4. Using the cutting plotter's POSITION ( $\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$ ) key, move the tool to the start mark (see figure) under the barcode and press the "ENTER" key.  
 The barcode is scanned, then the corresponding data is read out from the USB flash drive.  
 Cutting starts when all registration marks are detected.

<For grit rolling type>



<For flatbed type >



**Supplement**

- For CE LITE-50, refer to User's Manual of the main unit.
- If the start mark cannot be scanned, check the print result of start mark and the detect start position etc.



## 4.3 Data Link Workflow for Continuous Cutting (Barcode Data Management)

This section describes how to print and cut with the data link function of cutting plotter after a creating roll media barcode in the dedicated application.

Roll Media Barcode allows you to print and cut a complete roll of multiple jobs without operator intervention.

This section explains how to create Roll Media Barcode jobs from PC and how to process them.

Because the procedure differs for each application, refer to the instructions depending on application to be used.

This option will only be displayed on supported models.

Step1. Create design data for printing and cutting.

Step2. Add barcode data.

Step3. Print design data.

Step4. Save cutting data in data link server.

Step5. Start Data Link Server.

Step6. Set up cutting plotter.

Step7. Cut the printed media.

### Supplement

- In continuous operation, even if the paper feed command and the cross cut command are included in the data, it becomes invalid.
- It is recommended that a take-up device (Only supported models) is used during continuous operation.
- When using a basket, please do not let the media protrude from the basket.  
If you do not use a basket, please make sure that media does not accumulate on the floor.  
If you do not take action, the media may skew.
- When doing continuous operation, load the roll media without making slack of the medium at the back of the machine.
- It cannot be used when connecting via RS-232C interface.

### Step1. Create design data for printing and cutting.

See "4.1 Basic Workflow for Registration Marks" to create design for printing and cutting.

### CAUTION

If you want to use continuous operation, select Media Size according to Width of Roll Media you want to print.  
If you use Roll Media with A0 Size, choose A0 (every Vertical), A1 (every Horizontal), or Media Size with any Length in A0 Width.

### Supplement

- To use continuous operation, select the media size for the design according to the width of the roll media to be printed.
- Create only design for printing and design for cutting. Then create registration marks and barcode in the next procedure.

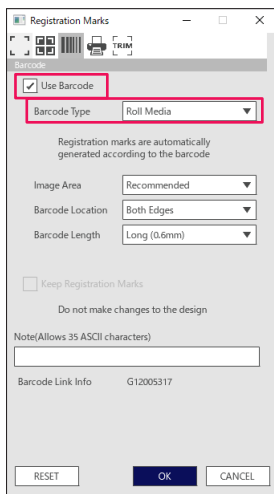
## Step2. Add barcode data.

When barcode cutting is performed in continuous operation, it is necessary to attach a special barcode called "Roll media barcode".

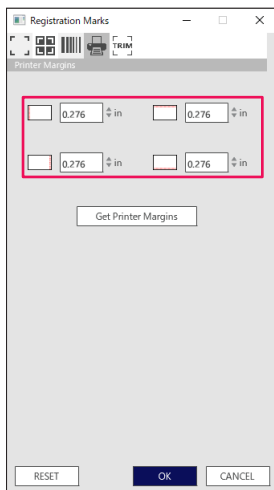
### Operation

Create registration marks and a barcode for data link (continuous operation).

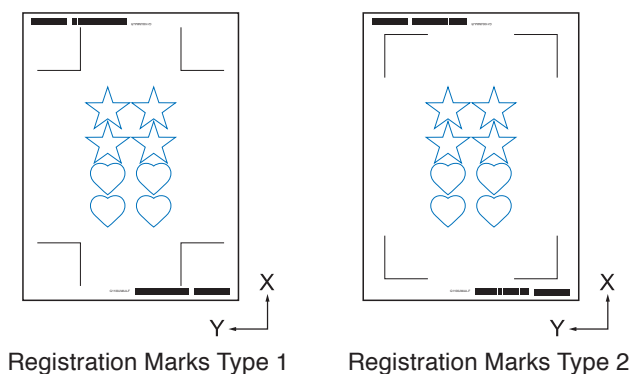
1. Start "Registration Marks" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Registration Marks" from the File menu.  
For CorelDRAW, select "Launch", then "CM5 Registration Marks" from the toolbar.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.  
\* Before selecting the "Registration Marks" or "CM5 Registration Marks", hide the printing layer.
2. Go to "General" tab, this will allow you to specify the various registration mark type, line thickness, and length.
3. Check the box in front of the "Use Barcode".  
Click the drop-down arrow for "Barcode Type", and then select Roll Media.



4. Enter the printer margin in the "Printer Margins" tab.  
\* The margins of the printer driver selected in the application are initialized in "Printer Margin".  
\* When changing the printer, acquire margin information by pressing the "Get Printer Margins".



- Press "OK" button.  
Registration mark and barcode are created on the design screen.



#### Supplement

Registration marks are placed automatically. The position cannot be changed.

### Step3. Print design data.

After creating the design data, print it on the media.

#### Supplement

Pay attention to the following points. It may cause registration mark reading errors to occur and may not cut properly.

- Set the enlarge/shrink scale to 100%.
- Set the printing position (center/lower left etc.) so that the positional relationship between the created document and the printed result is the same.
- In continuous operation, it is necessary that two or more jobs are printed on the roll media. It is convenient to prepare printing and cutting data in advance and print them collectively.
- Set the "Cross Cut" setting of the cutting plotter to OFF.

#### Operation

Create a design data with the Roll Media Barcode included for printing and cutting.

- Print using Adobe Illustrator or CorelDRAW function.  
Set the layer of cut data to hide before printing.

### Step4. Save cutting data in data link server.

Create an XPF File and save it to Data Link Server.

Since cutting data and barcode information are recorded in this XPF file, the cutting plotter will be able to find the correct cutting data.

#### Operation

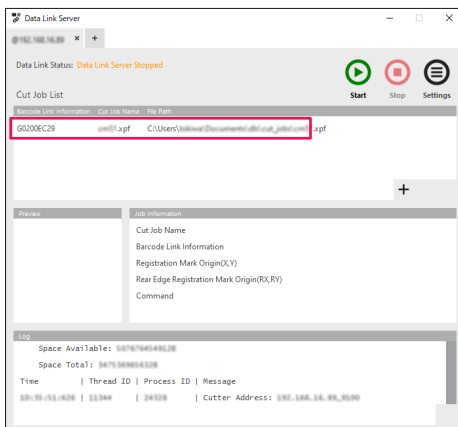
Save the file for data link (continuous operation) in the personal computer (data link server).

- Start "Cutting Master 5" screen.  
For Adobe Illustrator, select "Cutting Master 5", then "Send To Cutting Master 5" from File menu.  
For CorelDRAW, select "Launch", then "Cutting Master 5" from the toolbar.  
\* Before selecting the "Send to Cutting Master 5" or "Cutting Master 5", set the layer of printing data to hide.  
\* If you are using CorelDRAW X7, select "Application Launcher" from the menu.

- Click drop-down arrow for "Send to Data Link Server", and then press "OUTPUT" button to send the cut data.



- Start Data Link Server.  
Verify that File that you submitted to Cut Job List field is pending.

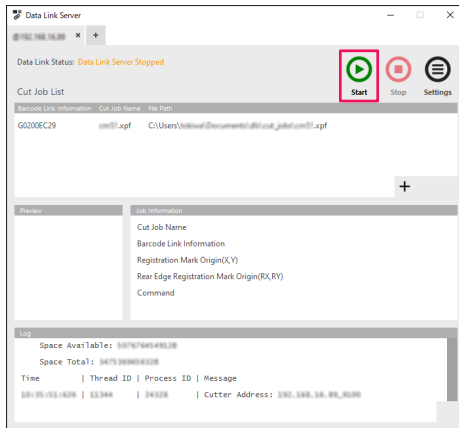


## Step5. Start data Link Server function.

Starts the Data Link Server to communicate between the cutting plotter and XPF File.

### Operation

1. Start Data Link Server.  
Click the "Start" icon.



### Supplement

- The Cutting Plotter supports only one Data Link Server.  
Connecting multiple data link servers to a single cutting plotter may not work properly.
- When using Data Link Server, connect to the interface only that uses the data link server.  
When both USB and Ethernet ports are connected at the same time, this may cause the cutter to not operate properly.
- When using a data link server with network connection, always connect with a LAN connectivity.  
When connecting with wireless (Wi-Fi), it may not operate properly.

## Step6. Set up cutting plotter.

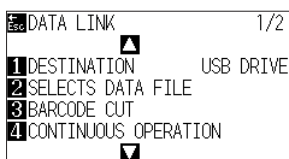
Set the data link connection method to receive cutting data from the data link server.

### Operation

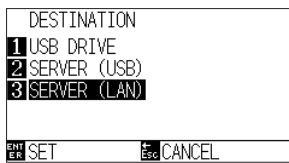
1. Press the "PAUSE/MENU" key.  
"MENU" will appear on screen.



2. Press the POSITION "▶" key (LINK).  
"DATA LINK" setting menu (1/2) will appear on screen.



- Press the "1" key (DESTINATION).  
"DESTINATION" menu will appear on screen.



- "2" Press the key "SERVER (USB)" or the "3" key "SERVER (LAN)".  
\* Select the interface to which Data Link Server and cutting plotter are connected.
- Confirm the setting and press the "ENTER" key (SET).  
Setting is confirmed and DATA LINK window (1/2) reappears.
- Press the "PAUSE/MENU" key.  
It will return to default screen.



### Step7. Cut the Printed Media.

Cut the printed media with the cutting plotter.

#### Operation

- Place the printed media on the cutting plotter.



For details on how to load media, refer to User's Manual for the cutting plotter device.

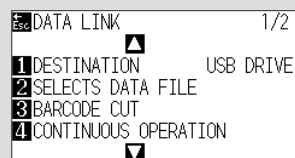
- From the cutting plotter's control panel, press "BARCODE".  
The following message is displayed.



From the menu screen, you can also enter the start screen of continuous operation. In the basic screen, press "PAUSE/MENU".



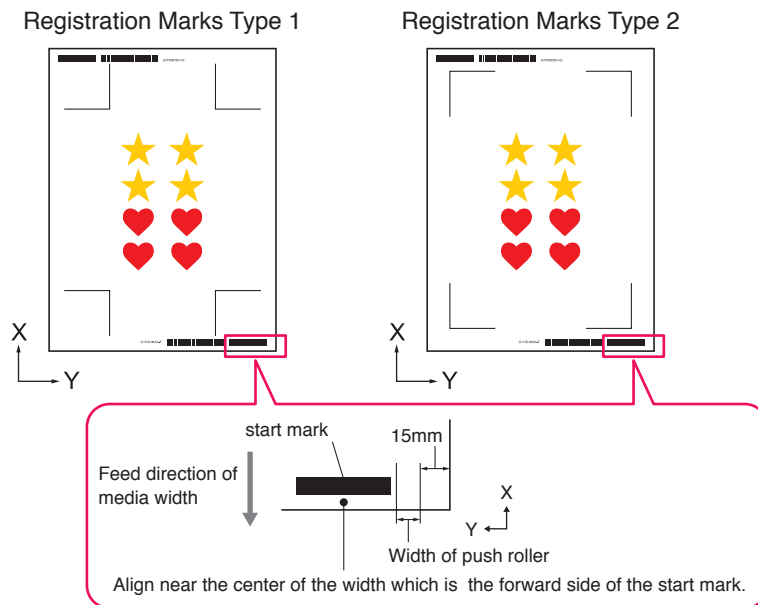
Press the "▶" key (LINK).



"4" Press the key (CONTINUOUS OPERATION).



- Press POSITION ( $\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$ ) key in the control panel, move the center of tool to the start mark position of the black rectangle next to the barcode (See the figure below).



#### Supplement

If the start mark cannot be detected, check the start mark and Position at which the start mark is detected.

- Confirm the tool position and press the "ENTER" key.  
Barcode starts to be detected, the corresponding data is read from the Data Link Server and cutting starts when Registration Marks are detected.
  - \* While the Continuous Operation is performed, once the cutting of the first data is completed, it will automatically detect the barcode for the second data and then cut.  
This process of detecting and cutting will repeat itself automatically until all remaining barcodes have been read and files have been cut.
  - \* If media skew is higher than the value specified in "automatic skew detection" setting in the cutter, continuous operation stops preventing media misalignment.

# Chapter 5 *Advanced Cutting for a Specific Application*

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## **PRODUCT SUMMARY**

- 5.1 *How to Use Registration Marks for a Specific Application (When Using Alignment Mark in Print & Cut)*
- 5.2 *What is the Barcode Cut Feature*
- 5.3 *Adjust and Fine-tune the Cutting Conditions*
- 5.4 *Useful Functions for Advanced Cutting*
- 5.5 *Automated Weed Line Feature*
- 5.6 *Multiple Copies of the Objects on the Same Media*
- 5.7 *Advanced Way to Use Registration Marks*
- 5.8 *How to Cut a Job larger than the Media (Using Tiling Function)*
- 5.9 *How to Check the Cutting Plotter Information*
- 5.10 *Remote Control for Cutting Condition by PC*



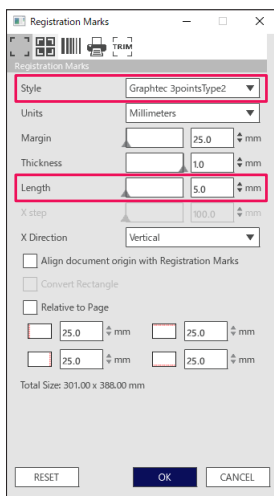
## 5.1 How to Use Registration Marks for a Specific Application (When Using Alignment Mark in Print & Cut)

### Maximize your Cutting Area (Changing the Size and Shape of Registration Marks)

This allows wider cutting area by making the marks smaller or fewer.

#### Operation

1. Open "Registration Marks" screen, go to "General" tab.
2. Click the drop-down arrow for "Style" of Registration Marks, and then select "Graphtec 3 points" or "Graphtec 2 points" to use.  
Click the drop-down arrow for "Length", and then select "5mm".



#### Supplement

- The slightest movement in the media may result in registration mark scanning error. Instead, practice one of the following techniques: Load the media as straight as possible. And/or increase the size of the registration marks.
- If a very high accuracy between print and cut position is needed, always use the 4 point method of registration marks and maximum length.

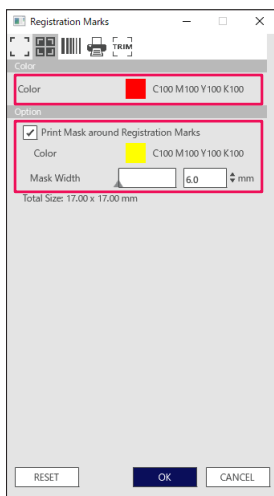
## **Registration Marks for Your Specific Media (Changes Mark Color or Background Masking Color)**

Registration Marks can be scanned for your specific media by either changing the mark's color or simply adjusting background mark's color.

This is used when a normal black registration mark cannot read for specific media.

### **Operation**

1. Open "Registration Marks" screen, go to "Color" tab.
2. Check the box in front of "Color".  
If you want to fill with color around Registration Marks on the selected object, check the box in front of the "Print Mask around Registration Marks".  
Check the box in front of "Color" under the "Print Mask around Registration Marks".  
You can resize your "Mask Width" to use by clicking on the slide bars.



### **Supplement**

Depending on your media type, it may not be able to read Registration Marks even if this option is set.

It is possible that the registration marks cannot be read on all media types, it is not guaranteed.

## Registration Marks for Longer Prints (Changing Segment area Adjustment Marks or Intermediate Marks)

A file can also be cut by reducing the movement of the media feed direction, you can perform cutting with less deviation.

This is used when your jobs are skewed and misaligned during the printing and cutting process with a long.

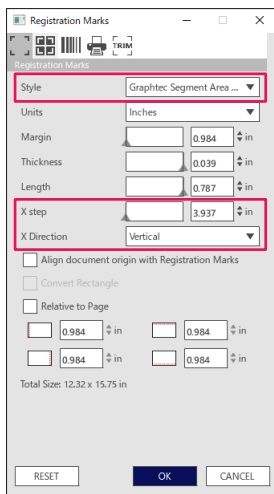
### Operation

1. Open "Registration Marks" screen, go to "General" tab.
2. Click the drop-down arrow for "Style" of Registration Marks, and then select "Graphtec Segment Area Type1" or "Graphtec Segment Area Type2" to use.

This controls the distance from one segment mark to the next in the "X step".

Click the drop-down arrow for "X Direction", and then select "Vertical" or "Horizontal" to use.

\* This sets which side of the media feed direction will be considered the X direction when the media is loaded.



## Advanced Cutting for Warped Prints (Graphtec XY Segment Area Type1, Graphtec XY Segment Area Type2)

Several materials are sensitive to ambient temperature, this may shrink, and some may expand after the image has been printed.

The 4 Point Registration Mark method cannot compensated for media deformation moves, especially when there is bow deformation.

In such cases, using the intermediate marks for the tool carriage and cutting direction (media movement), such as Self-adhesive vinyl materials, may give the cutter better control of the media and is likely to improve the cutting quality.

### Operation

1. Open "Registration Marks" screen, go to "General" tab.
2. Click the drop-down arrow for "Style" of Registration Marks, and then select "Graphtec XY Segment Area Type1" or "Graphtec XY Segment Area Type2" to use.

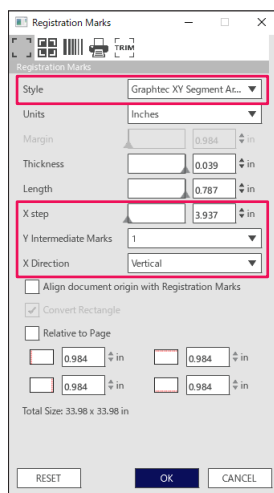
This controls the distance from one intermediate mark to the next in the "X step".

Click the drop-down arrow for "Y Intermediate Marks", and then select the number of marks for the Y cutting direction (Carriage movement).

\* This specifies the direction in which the tool carriage will be moved (Y direction) when the media is set on the preview screen.

Click the drop-down arrow for "X Direction", and then select "Vertical" or "Horizontal".

\* This sets which side of the media feed direction will be considered the X direction when the media is loaded.



#### Supplement

This "Y Intermediate Marks" option can only be used when the spacing is specified between each individual marks is 600mm or more.

You may need to select a different number of marks is even when using the same condition set to 600mm or more.

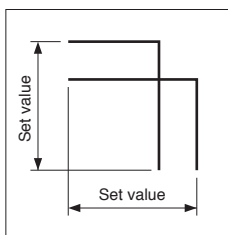
## How to Use Illustrator's Trim Marks as Registration Marks

It is possible to use Illustrator's Trim Marks to print and cut.

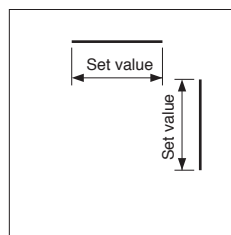
This option will save you from having to enter the settings on the cutting plotter device by using the software.

### Operation

1. Open "Registration Marks" screen, then go to "Trim Marks" tab.
2. Click the checkbox in front of the "Use Trim Marks".
3. Click the drop-down arrow for "Type", and then select "Roman style" or "Japanese Style".
4. Click the drop-down arrow for "Scan Mode", and then select "2 Point", "3 Point" or and "4 Point".
5. Manually slide a length of Trim marks bar or enter a specific value of length and apply it.

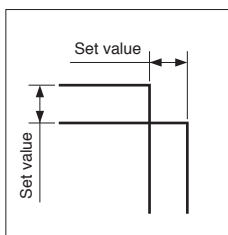


Japanese Style

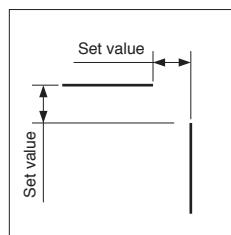


Roman Style

6. Manually slide distance on the Trim marks bar or enter a specific value of distance and apply it.

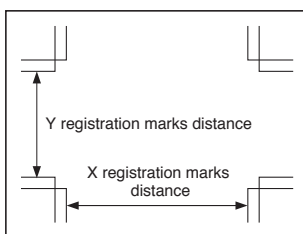


Japanese Style

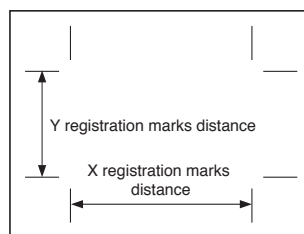


Roman Style

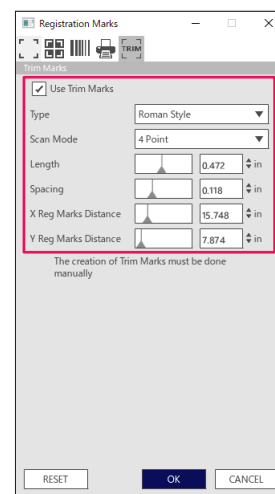
7. X Reg Marks Distance: Enter a specific value of distance between Registration Marks of Y Direction.
8. Y Reg Marks Distance: Enter a specific value of distance between Registration Marks of X Direction.



Japanese Style



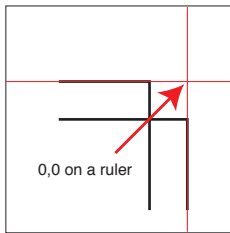
Roman Style



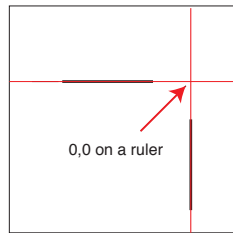
9. Press "OK" button.

10. You can display the rulers in the Illustration window, specify ruler to 0,0 and move to the Trim Marks position as below:

When completed, set the layer of printing data to remove or hide.

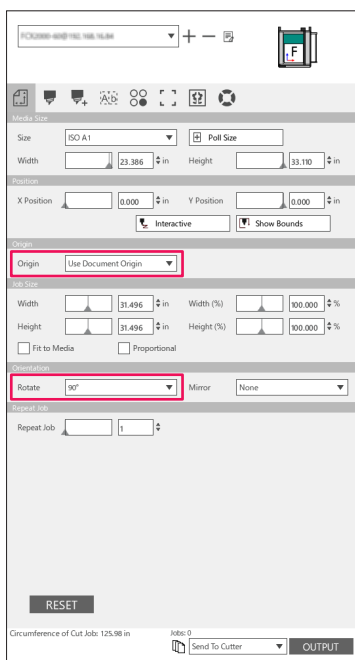


Japanese Style



Roman Style

11. Launch Cutting Master 5.
12. Go to "General" tab, click the drop-down arrow for "Origin", then select "Use Document Origin". Click the drop-down arrow for "ROTATE", select to "90°".



13. Click the drop-down arrow for "Send To Cutter", then press "OUTPUT" button.

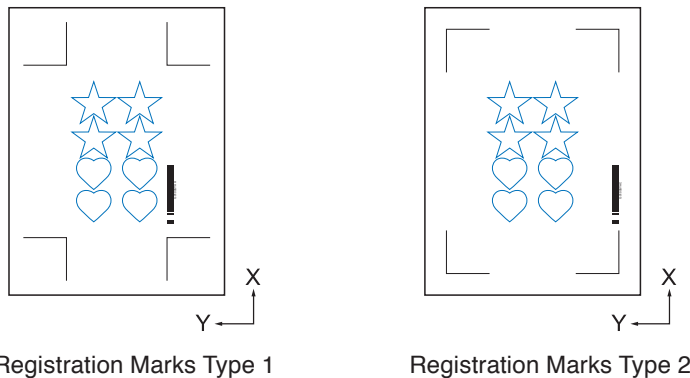
#### Supplement

- This is not a function for creating Trim Marks. This function can only be used when data in Illustrator contain the same printed trim marks on media.
- CoreIDRAW does not support the "Trim Marks" feature.
- See the User's Manual for details on Registration Mark Scan Starting Position.

## 5.2 What is the Barcode Cut Feature

### What is the Difference between Standard and Roll Media Barcode Options

Standard Barcode can be used to save barcode information to USB flash memory. Read the data linked to the barcode from the USB flash drive and printing and cutting.



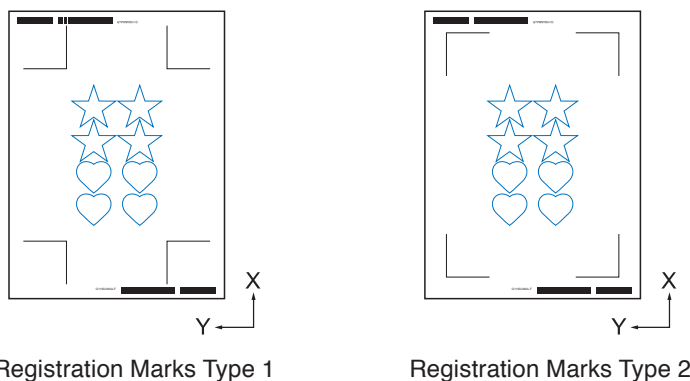
Registration Marks Type 1

Registration Marks Type 2

Roll Media Barcode can be used to save barcode information to USB flash drive or Data Link Server. This can be output directly to the cutting plotter by sensing the barcode information corresponding to the barcode printed on the media.

The Roll Media Barcode can be used to cut multiple jobs sequentially when the cutter will detect the marks for the second barcode automatically after the first job is done.

In this way a complete roll can be cut for the multiple jobs without intervention of the user.



Registration Marks Type 1

Registration Marks Type 2

For details on how to use Standard Barcode, see "4.2 Basic Workflow for Print and Cut with Barcode".

For details on how to use Roll Media Barcode, see "4.3 Data Link Workflow for Continuous Cutting (Barcode Data Management)".

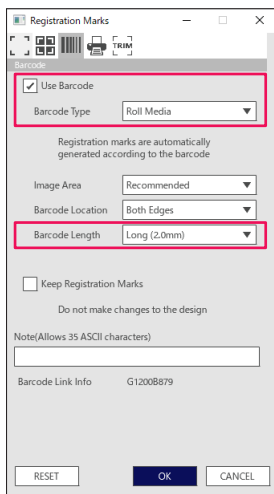
## How to Scan Barcode with High-Intensity Reflective Film or Glossy Media

This is used when the user needs to be read the barcode with high-intensity reflective film or glossy media.

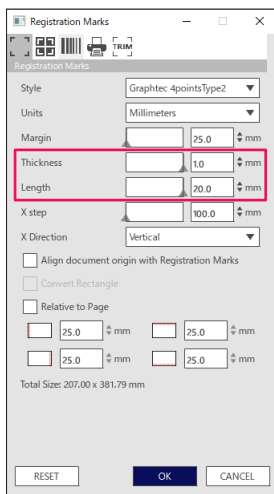
### Operation

1. Start "Registration Marks" screen, then go to "Barcode" tab.
2. Click the checkbox in front of the "Use Barcode".
3. Click the drop-down arrow for "Barcode Type", and then select "Roll Media".
4. Select any barcode length from "Long (0.8mm)" to "Long (2.0mm)".

\* It is recommended to make sure that the barcode length is longer ensure the barcode scanner can read the barcode.



5. Go to "General" tab.
6. Set "Thickness" to "1.0mm".
7. Set "Length" to "20mm".



### Supplement

- "Scan Mode" needs to be set to "Mode 4" to perform optimal cut on the plotter. For details on how to set scan mode, refer to User's Manual on the cutting plotter device. This "Mode 4" should only be used with FC9000 or CE7000 series.
- The high-intensity reflective films can only be used with the FC9000 Series.
- It is possible that the registration marks cannot be read on all media types, it is not guaranteed.



## 5.3 Adjust and Fine-tune the Cutting Conditions

### Configuring the Cutter Settings to Match the Properties of the Media by PC (Add, Save, Import)

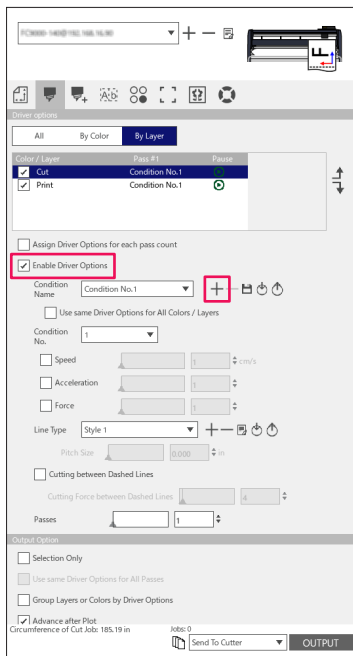
This is used for easy adjusting when the cutting conditions are saved in the computer, it is not necessary to change this each time unless the media has changed.

#### Supplement

- "CONDITION PRIORITY" settings in the cutter's control panel need to be set as "PROGRAM".
- "TOOL SELECT COMMAND" settings in the cutter's control panel need to be set as "ENABLED".

#### Operation

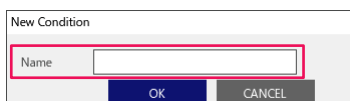
1. Start "Cutting Master 5" screen, go to "Option".
2. Check the box in front of "Enable Driver Options".  
Click on the "+" icon next to the "Condition Name" list.



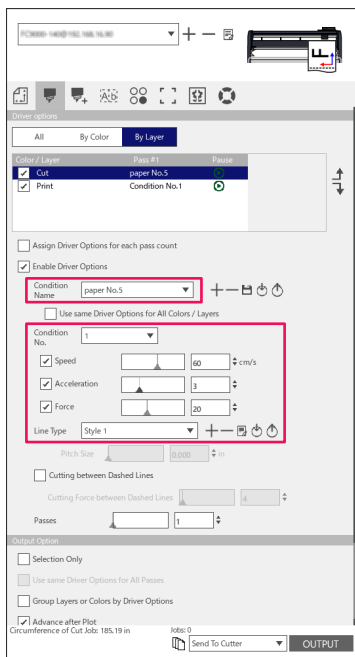
#### Supplement

Up to the eight types of presets can be saved in the "Condition Name" list. It can be useful to save the cutting conditions optimized for an often-used type of media as a preset.

3. The "New Condition" dialog box will appear on the display.  
Enter a new condition name, then press "OK" button.



- Click the drop-down arrow for "Condition Name" and confirm your entry. Make the settings for the each cutting condition.



- Click the drop-down arrow for "Condition No." and select one condition number from "1" to "8". Selecting "3", will use the operation according to the Condition No. 3.



For conditions two kinds of tool setting can be set at the same time, you can assign a tool number to each condition number.

Before the first use, the tool setting needs to be preconfigured on the cutter.

For example, the menu on the control panel shows the tool number with a plotter-type pen or knife with a pen, which was currently selected by condition No1.

- Check the box in front of "Speed", specify it with the slider bar or by typing in a specific value. If you specify "30", it moves at 30cm/sec for the speed of cutting.



If this "Speed" check box is disabled, use the speed setting which is set on the cutting plotter.

- Check the box in front of "Acceleration", specify it with the slider bar or by typing in a specific value. If "2" is specified, it operates with Acceleration of two.



If this "Acceleration" check box is disabled, use the acceleration setting which is set on the cutting plotter.

The "Acceleration" will automatically be linked to the "Force", if the "Acceleration" check box is activated, it is also possible to activate a "Force".

- Check the box in front of "Force", specify it with the slider bar or by typing in a specific value. Selecting to "15", the cutter will operate according to the pressures of the blade at a fifteen.



If this "Force" check box is disabled, use the force setting which is set on the cutting plotter.

The "Force" will automatically be linked to the "Acceleration", if the "Force" check box is activated.

- Click the drop-down arrow for "Line Type", select one line type from "Style 1" to "Style 9". If "Style 1" is specified, this will operate as a solid line.

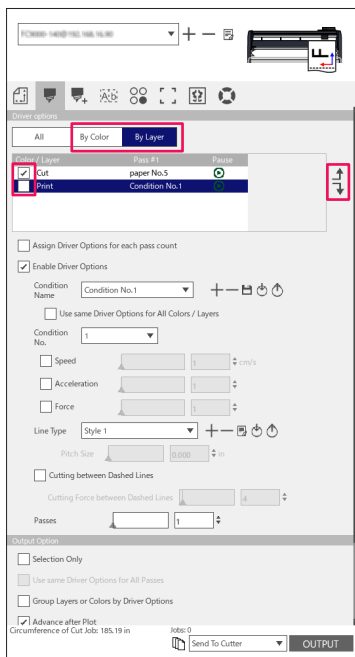
10. Setting is completed, press the " " icon next to the "Condition Name".
11. The "New Condition" dialog box will appear on the display. Confirm your setting and press "OK" button.
12. Repeat the procedure to find the optimal setting values and make the settings for the cutting conditions.

## Assigning/Outputting Cutting Conditions for Each Color or Layer

If colors (Cutting lines and Fill color)/layers are already predefined in the design, these colors/layers data can be used for assigning certain tools, can also be set for each tool such as Knife or Pen in each color/layer.

### Operation

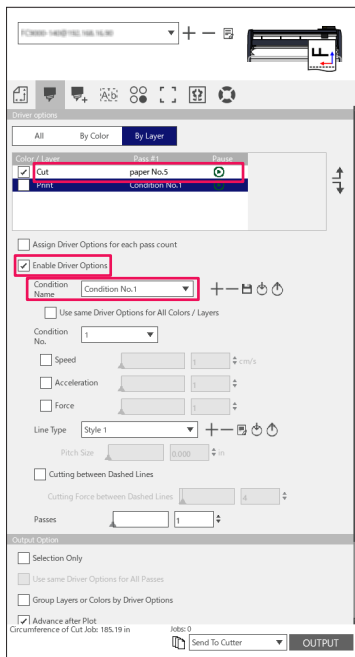
1. Start "Cutting Master 5" screen, go to "Option".
2. Select either "By Color" or "By Layer".  
If you wish to deselect the Colors or Layers, you may remove them on the checkbox in the "Color"/"Layer" field.  
Specify the cutting order by Color or Layer of your desired driver options.  
Change the color or layer you want to cut to apply it by using the up and down arrow at the right side.



### Supplement

When you create the design, it is recommended that data be organized by color or by layer so that it can easily be processed.

3. Specify the cutting conditions you want to assign in each Color or Layer.  
Check the box in front of "Enable Driver Options".  
Specify the cutting condition by Color or Layer of your desired driver options.  
Click drop-down arrow for "Condition Name", then select one option to use.



### Supplement

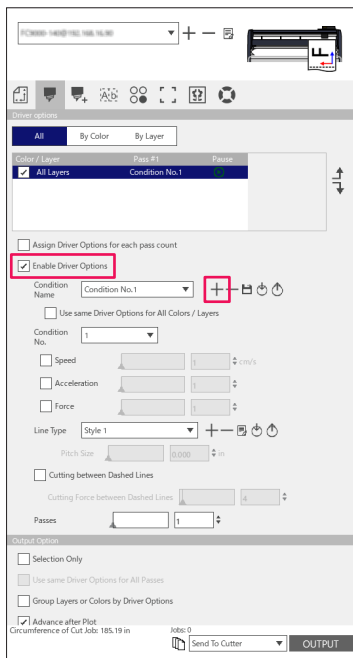
- If this "Enable Driver Options" check box is disabled, use the cutting conditions which is displayed on the cutting plotter.
- You can create any condition that is displayed in the Condition Name.  
For details on how to create the cutting conditions, refer to "Configuring the Cutter Settings to Match the Properties of the Media by PC (Add, Save, Import)".

## Using the Perforated Cut Feature and Efficiency

This perforated cut option is not only to cut with the tool pressure completely up but also the forces are less and the risk that blade movement is smaller. This method more efficiently completes the cutting operation. This option will only be displayed on supported models.

### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Check the box in front of "Enable Driver Options".  
Click on the "+" icon next to the "Line Type" at the right side.

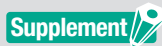
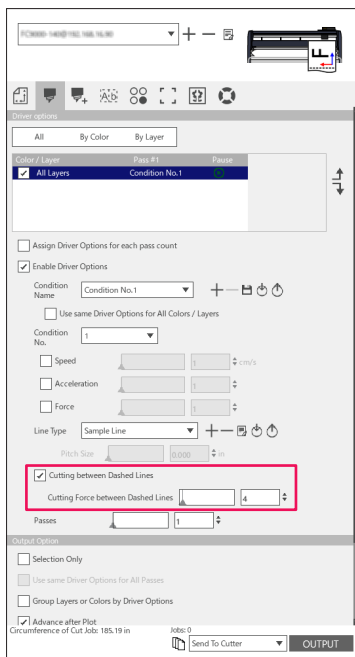


3. The "Edit Custom Line Style" dialog box will appear on the display.
4. Enter any user-defined name in the "Custom Lines" field.
5. Click drop-down arrow for "Custom Type", select cut line pattern you want to use.
6. For Custom, enter the length of the cut to achieve deep cutting to "a", and enter the value not cut to "b".  
For Custom2 and Custom3, enter the length of the cut to achieve deep cutting to "a" and "c", and enter the value not cut to "b".



7. Press "OK" button to close "Edit Custom Line Style" dialog box.
8. Select a new Line Type in which it was created in the "Custom Lines".

9. Check the "Cutting between Dashed Lines" to enable the cutting force between dashed lines. This specifies the blade pressure in the "Cutting Force between Dashed Lines" while tool up.



- This "Cutting between Dashed Lines" will only be enabled available for selecting if a new custom line is specified.
- This "Cutting Force between Dashed Lines" option will specify the blade pressure when the blade is not use for cutting in "Edit Custom Line Style".

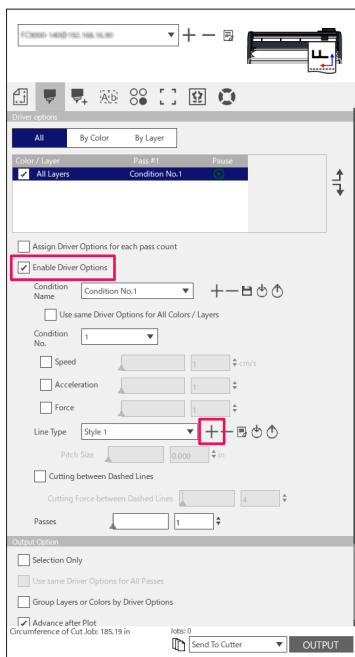
## How to Use Extra-Sticky Media

When using the extra-sticky media or a thin high-intensity reflective media, it may not operate properly due to an adhesive buildup on the blade tip. In this case, "Perforated Cut" function can be used to improve the cutting operation and efficiency.

This option will only be displayed on supported models.

### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Check the box in front of "Enable Driver Options".  
Click on the "+" icon next to the "Line Type" at the right side.



3. The "Edit Custom Line Style" dialog box will appear on the display.
4. Enter at any user-defined name in the "Custom Lines" field.
5. Click the drop-down arrow for "Custom Type", select "Custom 1".
6. Enter the length of the blade to 500mm (19.685 inches) for "a" (500mm in cut length).
7. Enter the length of the blade to 0.01mm (0.04 inches) for "b" (Not use cut length).

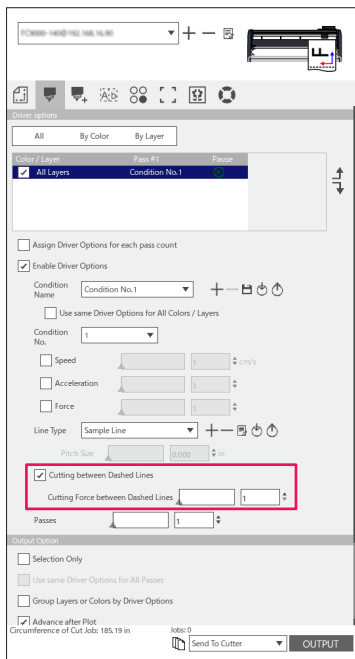


This is the length of values for reference purposes only.  
Perform test cuts to determine if the values are suited for your media.

8. Press "OK" to close "Edit Custom Line Style" dialog box.
9. Select a new Line Type in which it was created in the "Custom Lines".
10. Check the box in front of "Cutting between Dashed Lines".



11. Enter the value to "1" in the "Cutting Force between Dashed Lines" field.



### Supplement

- This "Cutting between Dashed Lines" will only be enabled available for selecting if a new custom line is specified.
- If the setting value is set at "1", but the cutting quality will not be improved, please click "Cutting Force between Dashed Lines" so that is deselected.

## How to Use the Thick Media

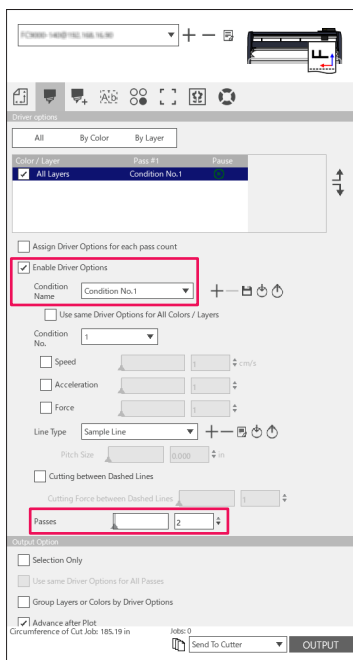
This can be used to cut media that is too thick to be cut in one pass either when you repeat cut under the same cutting conditions or if the different conditions are combined.

### In case the same cutting conditions are used in multiple passes

#### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Click the check box in front of "Enable Driver Options".
3. Click the drop-down arrow for "Condition No." and select one condition number from "1" to "8".
4. Enter the number of times to cut the same path for "Passes" field.

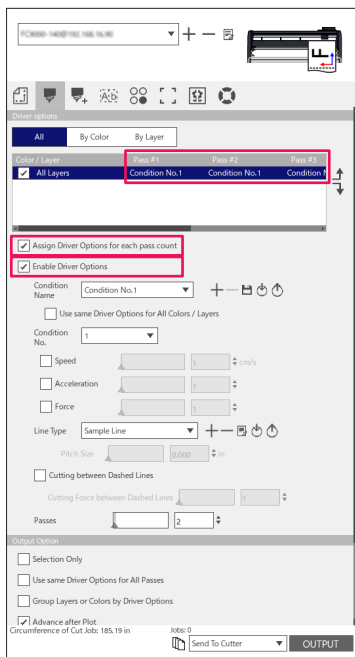
For example, if you specify "2", then the blade will be cut the same path two times.



## In case different cutting conditions are combined

### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Check the box in front of "Enable Driver Options".
3. Click the drop-down arrow for "Condition No." and select one condition number from "1" to "8".
4. Check the box in front of "Assign Driver Options for each pass count".
5. This will allow you to show the number of possible cutting conditions for each pass from Pass #1 to Pass #5.



6. Click on the "Condition Name" until "Pass #1" is displayed in the Color/Layer.
7. Click drop-down arrow for "Condition Name", then select one option to use for the first cut.
8. Click on the "Condition Name" until "Pass #2" is displayed in the Color/Layer.
9. Click drop-down arrow for "Condition Name", then select one option to use for the second cut.
10. Repeat the procedure to specify the optimal cutting conditions for each Pass #3 to Pass #5.

#### Supplement

- You can specify up to five passes with your multiple cutting.
- If the pass settings are not necessary anymore, then it suffices to set the condition name to "Skip pass" again.

## Tool Carriage Controls by PC

It is possible to move the tool carriage to the origin point or outside cutting area after the cutting process is completed.

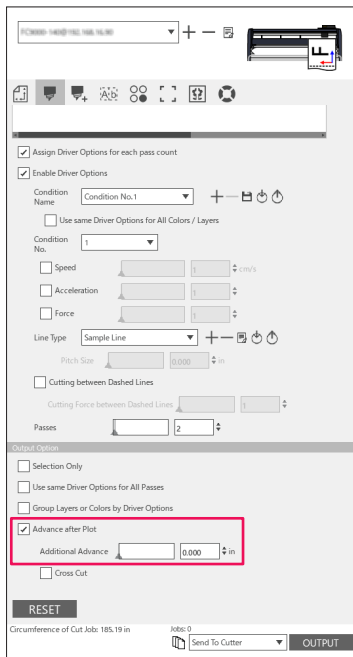
### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Check the box in front of "Advance after Plot".

#### Supplement

- For grit roller type  
If this option is enabled, the media is advanced (fed) an exact distance from the cut object.  
\* If sheets are used, the control panel displays a message prompting you to change the media.  
If this option is disabled, tool carriage will return to the origin position.
- For Flatbed type  
If this option is enabled, the tool carriage will move to the end of the table.  
If this option is disabled, the tool carriage will return to the origin position.

3. This specifies amount of media feed.



#### Supplement

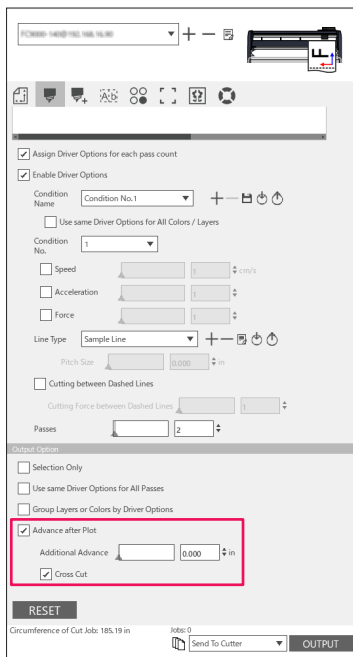
- For grit roller type  
If this option is enabled, the media is advanced (fed) an exact distance to the end of object, and it should additionally be possible to advance the media by the specified value.  
\* If sheets are used, the control panel displays a message prompting you to change the media.
- For Flatbed type  
This function is not supported.

## Cross Cut Feature Controls by PC after Completing Cutting

If you are using Roll Media, you can completely remove a sheet from the roll by using the crosscut function when the cutting is finished.

### Operation

1. Start "Cutting Master 5" screen, go to "Option".
2. Click the check box in front of "Advance after Plot".
3. Specify the distance the cutter in the "Additional Advance".
4. Click the check box in front of "Cross Cut".



### Supplement

- For grit roller type
  - This option performs the roll media crosscut automatically you can set or modify the distance the cutter will feed from a specified position by PC after cutting is finished.
  - \* This option is only available when the supported cutter is used.
  - \* If the sheets are used, the control panel displays a message prompting you to change the media.
- For Flatbed type
  - This function is not supported.

## 5.4 Useful Functions for Advanced Cutting

### How to Check Cutting Data to Fit onto the Media Size

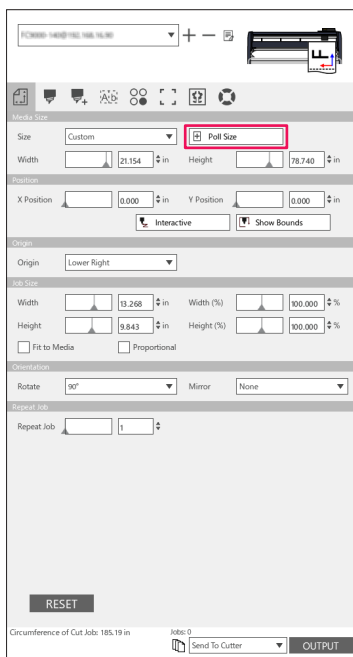
This option can be used to check whether the cut data size will fit onto the media before it is actually cut.

#### Supplement

- For grit rollers type, make sure to load the media and check whether the media set lever is lowered (Ready status).
- For flatbed type, make sure to obtain the value that is the maximum cutting area width. If setting need to be changed, first change the cutting area width in the cutting plotter device. For details on how to change the Expand Settings, refer to User's Manual for cutting plotter device.

#### Operation

1. Start "Cutting Master 5" screen, then go to "General" tab.
2. Press the "Poll Size" button.  
This "Poll Size" button is used to obtain the size (cutting area) of the loaded media, show a quick preview of the data in the preview window.

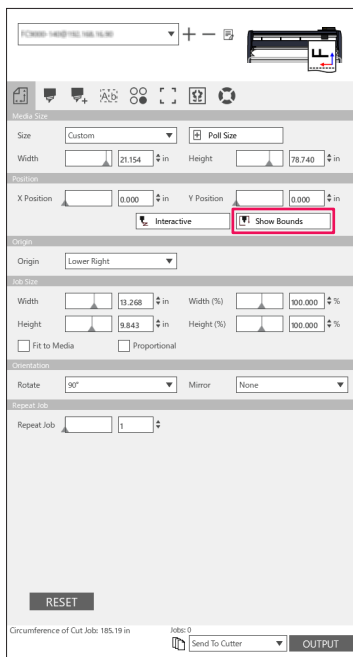


## How to Check Cutting Area on the Cutter before Cutting Starts

The tool carriage, with the tool in the up position will move around using the maximum upper, lower, left, and right sides of a rectangle. This will allow you to check if the drawing will fit without actually cutting.

### Operation

1. Start "Cutting Master 5" screen, then go to "General" tab.
2. Press the "Show Bounds" button.  
The cutting plotter is used to draw a rectangular that matches Image Area.



### Supplement

- For grit rollers type, make sure to load the media and check whether the media set lever is lowered (Ready status).
- If you need to check the origin point, press the "Interactive" icon.  
"Interactive" when enabled moves the tool carriage as you change by either manually dragging the position of the object within the preview window or by typing in the desired position in X, Y direction.

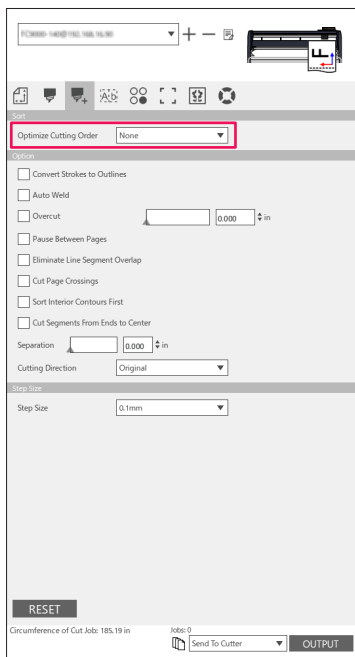
## Optimizing the Cutting Order for the Media (Preventing Misalignment)

Optimizing the cutting order will reduce the number of times the media moves back and forth, and the tool carriage moves from one side of the media to the other side.

This may reduce media skew and improve efficiency.

### Operation

1. Start "Cutting Master 5" screen, then go to "Advance" tab.
2. Click the drop-down arrow for "Optimize Cutting Order", and then select Cutting Order. If you wish to reduce the time to cut, select "Speed Priority". If you wish to minimize media movement, select "Restrict Media Movement". If does not need special settings, then select "None".



If you select "None", the cutting is performed in the order the data is sent from the application.



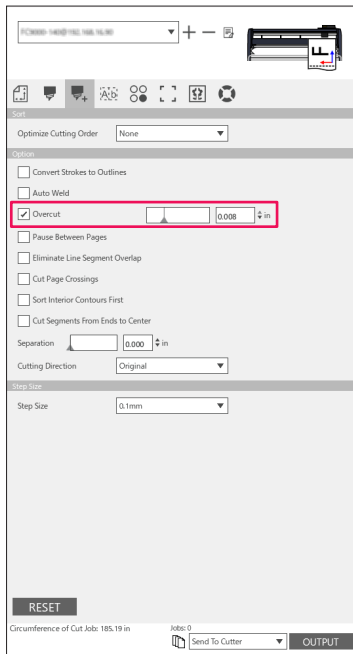
## How to Avoid Uncut Areas or Non Clean Edges

The Overcut feature helps avoid any uncut areas when cutting a closed shape.

The cutting line is extended by a specified length from the end point position so no gaps in the cut line are left.

### Operation

1. Start "Cutting Master 5" screen, then go to "Advance" tab.
2. Check the box in front of "Overcut", slide over cut length bar and apply it.

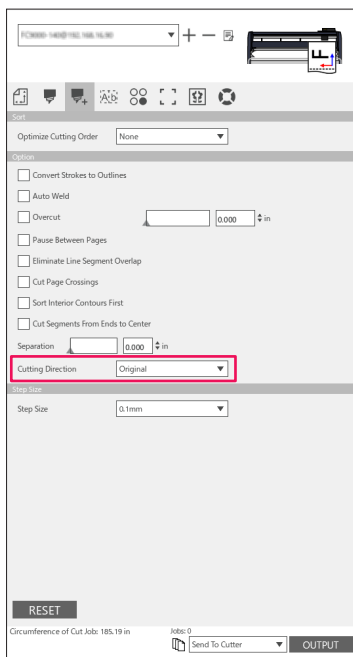


## Optimize Cutting Direction for Closed Shape to Obtain better Cutting Quality

If the blade alignment changes frequently when cutting closed shapes, the cut quality may suffer. You can improve the cut quality by setting the blade cutting direction to clockwise or counterclockwise.

### Operation

1. Start "Cutting Master 5" screen, then go to "Advance" tab.
2. Click the drop-down arrow for "Cutting Direction", and then select cutting direction to use. If you wish to set all objects to be cut the same clockwise, select "Clockwise". If you wish to set all objects to be cut the same counterclockwise, select "Counter Clockwise". If special settings are not needed, then select "Original".



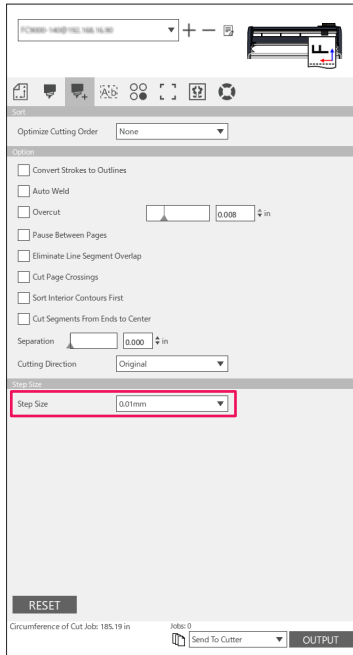
## Cut Length Result is Slightly Shorter than the Design Data about 0.5mm

The initial coordinate value (step size) is set to 0.1mm.

If the cut length is shorter, setting the step size to 0.01mm may correct the situation.

### Operation

1. Start "Cutting Master 5" screen, then go to "Advance" tab.
2. Click the drop-down arrow for "Step size", and then select 0.01mm.



If changing the Step Size does not fix the problem, check to make sure the blade is not worn down and also check the "Distance Adjust" values.

## 5.5 Automated Weed Line Feature

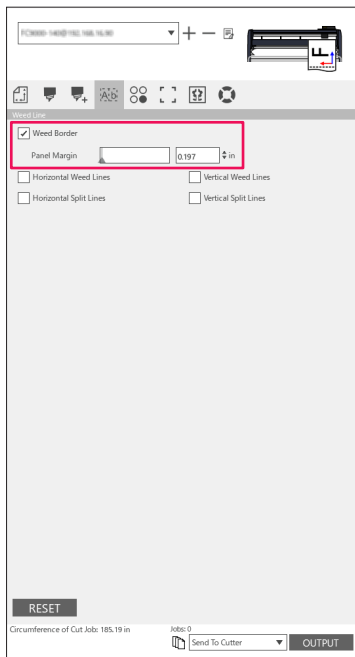
### Enables an Automated Weed Border to be Created around the Cut Job

This is used when the user wants to improve productivity and save time to add a rectangle around the bounding box of the job at a selectable distance.

It makes it easier to remove the excess media from the media. Use the Weed Line menu to add a rectangle in order to facilitate weeding the cut.

#### Operation

1. Start the "Cutting Master 5" screen, go to "Weed" tab, then check the box in front of "Weed Border".
2. Enter the desired margin space.



#### Supplement

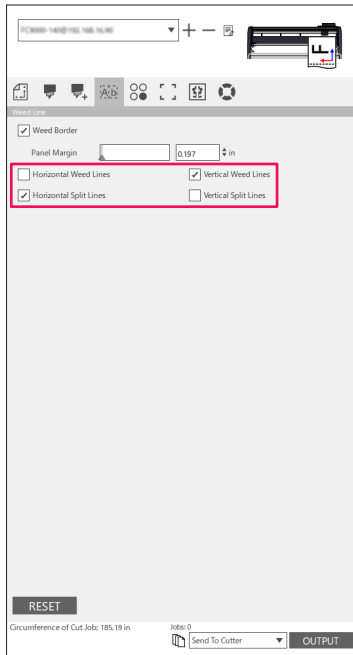
This can be used to set a selectable distance to add margin between the object and weed border. If the margin value is set to 0, weed border and object may overlap each other. It is recommended that you set the margin as appropriate for your cut job.

## Adds a Weed Line that Splits between Objects

This option allows the user to add horizontal or vertical Weed lines between characters at a selectable distance. This is very helpful to increase productivity and save time. It makes it easier to remove the excess media from the media. Use the Weed Line menu to add a rectangle in order to facilitate weeding the cut.

### Operation

1. Start "Cutting Master 5" screen, go to "Weed" tab. Check the box in front of "Weed Border", then select the appropriate weed line options. (Horizontal or Vertical Weed Lines, Horizontal or Vertical Split Lines.)



## 5.6 Multiple Copies of the Objects on the Same Media

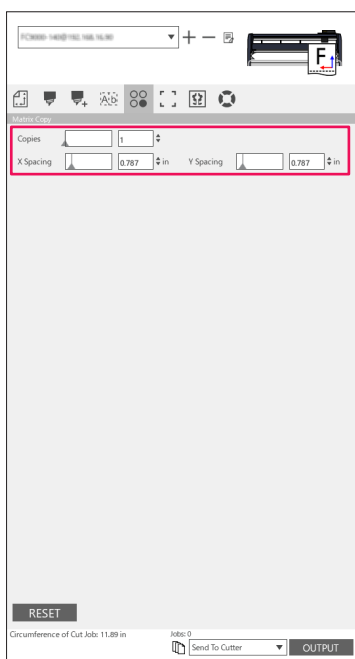
The Matrix Copy is an option to cut multiple copies when cutting the same object design that has been printed on the same media with equal distance between these objects.

This saves you from having to manually copy and paste the same object in your design multiple times.

### How to Specify Total Number of Copies of the Selected Object (Without Registration Marks)

#### Operation

1. Start "Cutting Master 5" screen, then go to "Matrix Copy" tab.
2. The "Copies" option determines the number of copies.
3. The "X Spacing" option determines the vertical spacing between copies.  
The "Y Spacing" option determines the horizontal spacing between copies.



#### Supplement

Copy will copy toward Y Position.  
If the multiple copies in a row is moved too far to the top.  
The software will automatically readjust the copies at the right inside the preview window.

## How to Specify the Number of Copies that will be produced in X or Y Direction (When using Registration Marks)

### Operation

1. Start "Cutting Master 5" screen, then go to "Matrix Copy" tab.
2. The "X Copy" option determines the copies horizontally from the right.  
The "Y Copy" option determines the copies vertically from the bottom.
3. The "X Spacing" option determines the horizontal spacing between copies.  
The "Y Spacing" option determines the vertical spacing between copies.



The Matrix Copy is not supported on all cutter models.

## 5.7 Advanced Way to Use Registration Marks

### Preventing Media Skew When Cutting Long Material

When you want to use registration marks and cut long material, you can minimize media skew by using the "Segment by Segment" feature. The registration marks are read in each segment and cut, then the media is moved forward, and the process is repeated until all the segments have been scanned and cut.

#### Operation

1. Start the "Cutting Master 5" screen, go to "Registration Marks" tab, then check the box in front of "Cut Segment By Segment".



#### Supplement

- You may visit our website and check the supported cutter.
- Registration Marks must have been created with Graphtec Segment Registration Marks or Graphtec XY Segment.



## How to Avoid Damaging the Printed Surface When Using Reverse side or Creasing Cutting

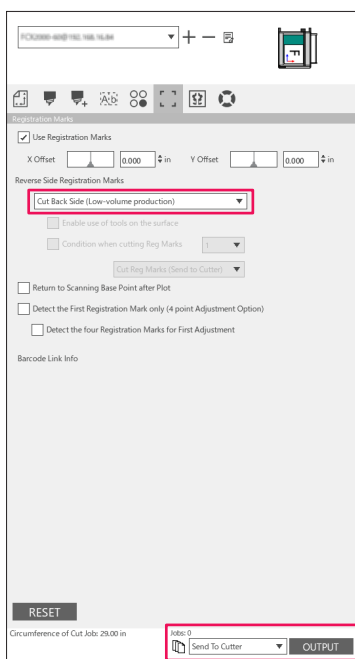
### Easily create patterns to facilitate low-volume high-variety production

This is used when doing printing and cutting with "Reverse Registration Marks".

The easiest way to get started with patterns and box creation to facilitate low-volume high-variety production. This option is not available on all models.

#### Operation

1. Creating data for printing & cutting.
2. Load the media on the cutting plotter.
3. Start "Cutting Master 5" screen, go to "Registration Marks" tab, click the drop-down arrow for "Reverse Side Registration Marks", and then select "Cut Back Side (Low-volume production)".
4. Select "Send To Cutter" and press "OUTPUT" button.



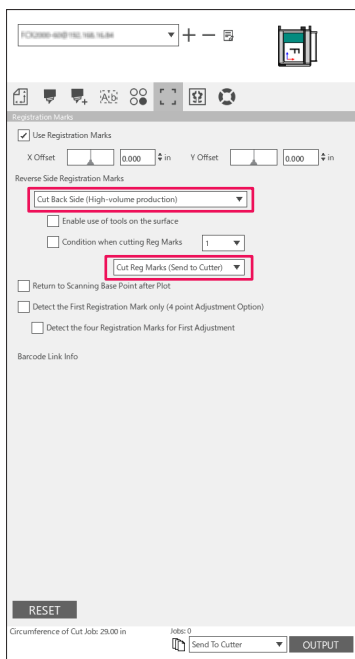
5. The cutter will start scanning the registration marks and cut out the marks on the reverse side of the media.
6. After removing the cropped marks, flip the media horizontally in a X direction and load the media again onto the cutting plotter. Make sure that the media is reloaded and matches the position which is set in step 2.
7. Press the "ENTER" key on the control panel of cutting plotter. The cutter will start scanning the registration marks and creasing and cutting are performed.

## Easily create the same objects for high-volume production

This is used when doing printing and cutting with "Reverse Registration Marks". You can efficiently create a large number of identical items.

### Operation

1. Creating data for printing & cutting.
2. Load the media on the cutting plotter.
3. Start "Cutting Master 5" screen, go to "Registration Marks" tab, and select "Cut Back Side (High-volume production)" from the Reverse Side Registration Marks.
4. Press "Cut Reg Marks (Send to Cutter)" button.



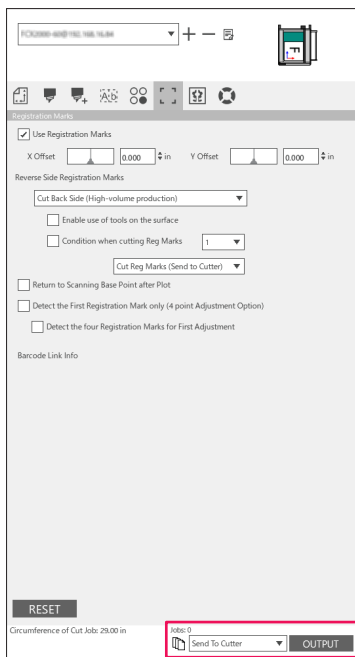
5. The cutter will start scanning the registration marks, cut out the marks on the reverse side of media.

#### Supplement

- If you wish to put a crease on the front side of the media, check the box in front of "Enable use of tools on the surface". You need to configure the data that is set front side in the "Option" tab before cutting.
- If you wish to specify the cutting conditions are intended for reverse side registration marks, check the box in front of "Condition when cutting Reg Marks". In this case, cut out the marks on the reverse side of the media by using the cutting conditions set on the control panel of the plotter.

6. After removing the cropped marks, reload the media onto the cutting plotter. Load and set your media again as originally positioned in step 2.
7. Cut out the part of marks only on the printed side by using COPY mode of the cutting plotter function.
8. After the marks are cut out for reverse side, perform the cutting process on the reverse side of the media. Flip the media horizontally in a X direction and load the media again onto the cutting plotter. Load and set your media again as originally positioned in step 2.

9. Click the drop-down arrow for "Send To Cutter" and press "OUTPUT" button. Creasing and cutting are performed on the reverse side of the media after reading the marks on the cutter.



- You need to configure the data that is used for the reverse side in the "Option" tab before cutting.

10. Perform the cutting process on the reverse side of the media by using COPY mode of the cutting plotter function.



- You may visit our website and check which cutters are supported.

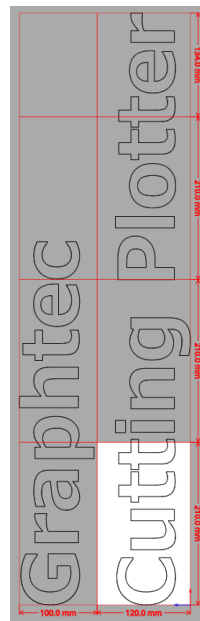
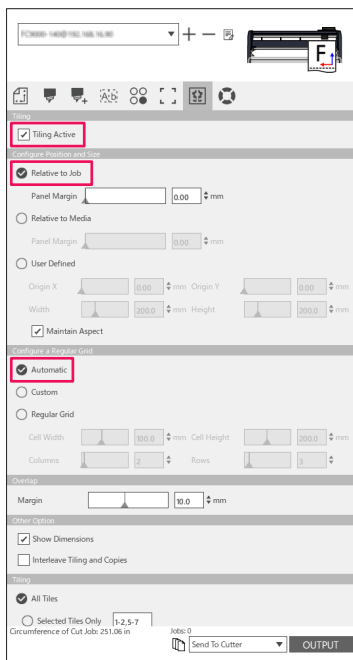
## 5.8 How to Cut a Job larger than the Media (Using Tiling Function)

### Adjustment of the Tile Sizes and Positioning

This may be useful when the job is larger than the loaded media size, by dividing the job into several parts.

#### Operation

1. Start "Cutting Master 5" screen, then go to "Tiling" tab.  
Check the box in front of "Tiling Active".  
Check the box in front of "Relative to Job" and select "Automatic".  
The job is divided into several parts.



\*With this option you can optimize the job for dividing them according to the media size of General tab.

#### Supplement

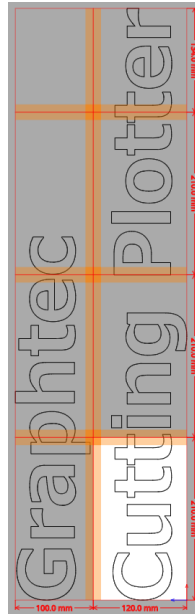
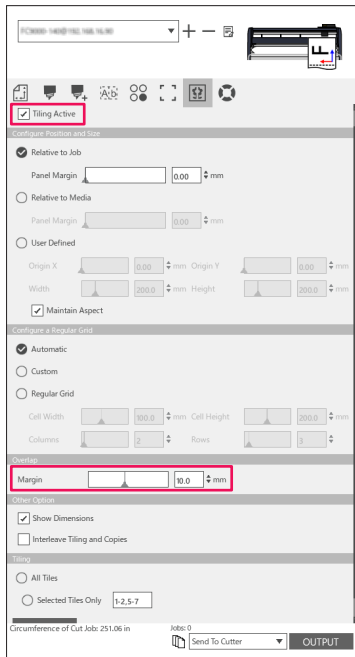
- "Regular Grid" will resize the tiles to maintain width and height dimensions for the individual tiles.  
"Cell Width" and "Cell Height" will set the cell width or height for each tile.  
"Rows" and "Columns" will set the number of tiles in a row or column.
- If you wish specify the size being divided in the preview window, you may edit the tile position by dragging the division lines and red control points.  
If you adjust the tile position and size manually, the check box will be changed automatically to the "User Defined" or "Custom".

## How to Overlap Between the Tiles

By overlapping the tiles onto the adjoining tiles, you can eliminate any gaps between the tiles when mounting the tiles after they have been cut.

### Operation

1. Start "Cutting Master 5" screen, go to "Tiling" tab.  
Check the box in front of "Tiling Active".  
Manually slide an overlap margin bar or enter a specific value and apply it.  
An overlap margin will be defined in orange color.

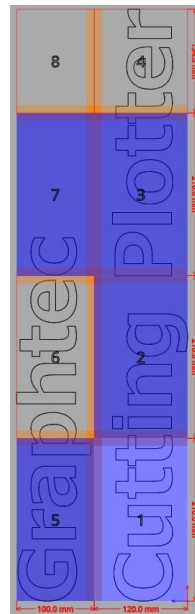


## How to Cut Only Selected Tiles

There is also the option to cut out each tile separately.  
With the "OUTPUT" button, the tile can be used again sent to the cutter.

### Operation

1. Start "Cutting Master 5" screen, go to "Tiling" tab.  
Check the box in front of "Tiling Active".  
This option allows for selected tiles only to be cut. you may click in the preview on the tiles and enter the specified tile number.  
For example, if you wish to output the tiles that specified numbers at 1 to 3,5 and 7 among the eight tiling, you can enter 1-3,5,7.



Clicking on a tile will toggle it between disabling or enabling the tile.  
When a tile is enabled, it will become a light blue color.

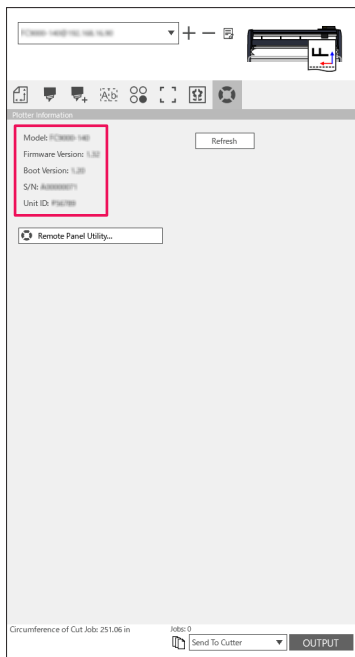
## 5.9 How to Check the Cutting Plotter Information

The cutter information can be obtained from Plotter information tab, check your plotter information before you contact your support section.

### Checklist for Getting Support

#### Operation

1. Start "Cutting Master 5" screen, then go to "Plotter Information" tab.
2. Write down and complete the cutter information, such as "Model", "Firmware Version" and "Serial Number".



## 5.10 Remote Control for Cutting Condition by PC

You may adjust the menu value that is frequently used from your computer.  
You may also adjust the configuration value by using "Remote Panel Utility".

### What is the Remote Panel Utility

This controls the configuration value by PC.

Allows you to retrieve the configuration value of each menu from the cutter along with remote control and monitoring by PC.

You may change the configuration value on the PC, and data updates will be sent to the cutting plotter.

The configuration value can be obtained from the cutting plotter.

You may save it in a file and can be backed up to a removable or external memory device as desired.

And the same configuration values may get transferred to the another cutting plotter.

#### Supplement

- The configuration menu differs depending on the connected cutting plotter.
- Make sure that the cutter is completely connected with the PC by using USB or LAN cable connection.
- Make sure that the cutter is in the READY status.

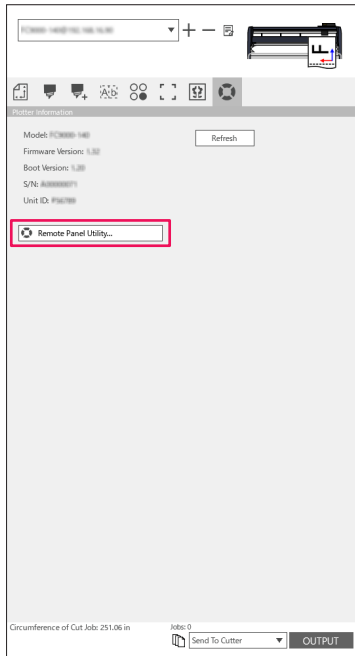


## Remote Controlling the Cutter's Configuration Value by PC

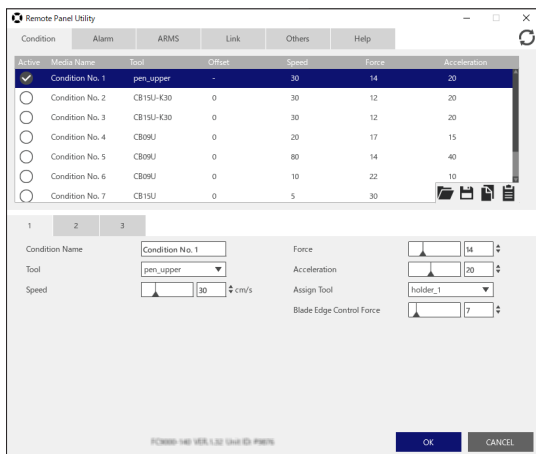
You may remotely change the configuration value which is performed on the cutting plotter device by PC.

### Operation

1. Start "Cutting Master 5" screen, then go to "Plotter Information" tab.
2. Press the "Remote Panel Utility" button.



3. Remote Panel Utility is started.  
Change the configuration value of menu which you wish to cut.



4. If the setting changes are completed, then press "OK" button.  
It makes it possible to send the configuration value to cutting plotter and update it.



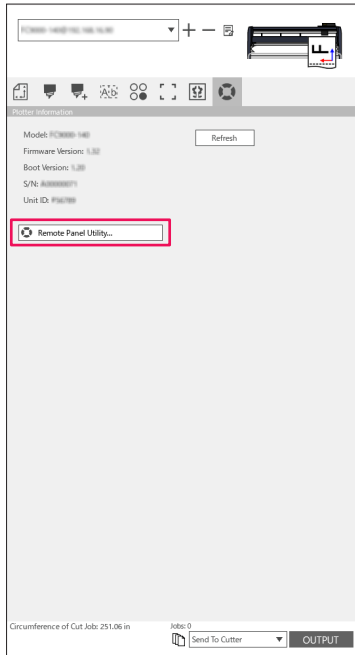
If you do not send your changes, press "Cancel".

## How to Back Up the Cutter's Configuration Value

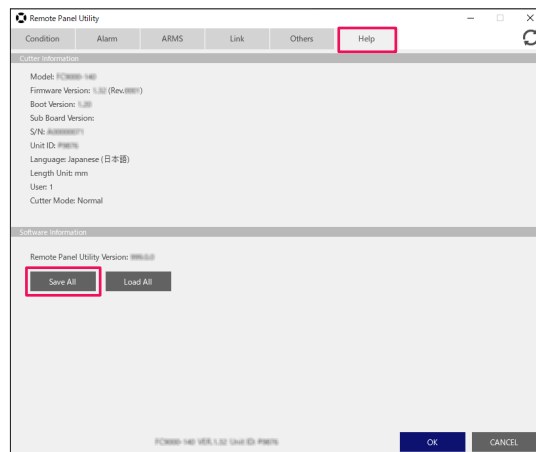
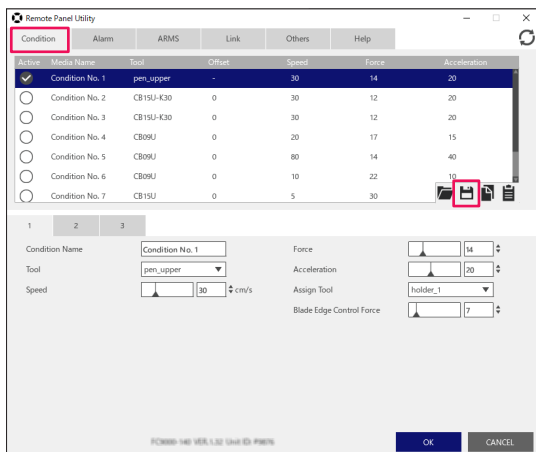
You may back up your cutter's configuration value that is displayed in the "Remote Panel Utility" screen. You may choose to back up a specific "Condition" tab only or all that you have selected.

### Operation

1. Start "Cutting Master 5" screen, then go to "Plotter Information" tab.
2. Press the "Remote Panel Utility" button.



3. Remote Panel Utility is started.  
If you want to back up only cut condition, simply press the "Save" icon in "Condition" tab.  
If you want to back up all the settings that you have selected, go to "Help" tab, then press the "Save All" button.



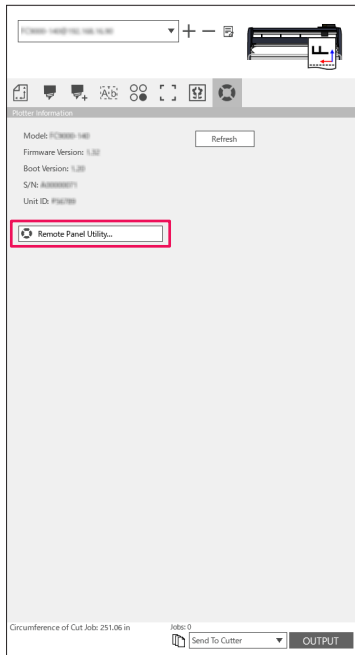
4. The "Save As" dialog box will appear. Save to any specified location with a name on your computer.

## How to Use the Backed-Up File

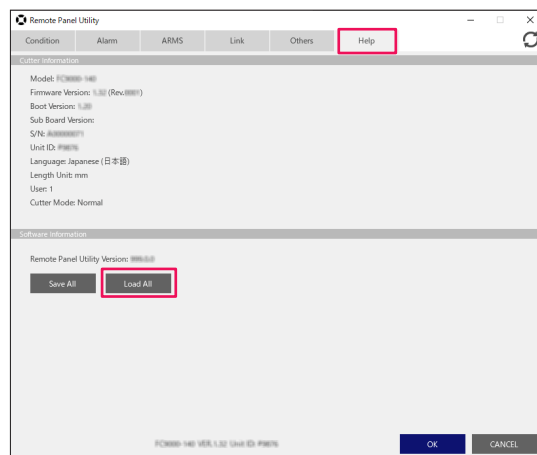
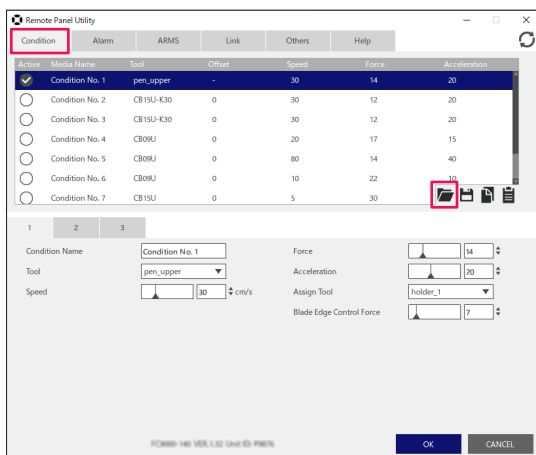
These backed files not only control the cutter's own configuration value but also other cutter's configuration values, used for the copy settings. If a new cutter is set up or if the multiple cutters are connected two or more at the same time.

### Operation

1. Start "Cutting Master 5" screen, then go to "Plotter Information" tab.
2. Press the "Remote Panel Utility" button.



3. Remote Panel Utility is started.  
If only "Condition" tab values need to be sent to the cutter, select the "🖨️" icon.  
If you are sending all the configuration values of the "Condition" tab to the cutter, go to "Help" tab, then press the "Load All" button.



4. The "Open" dialog box will appear, select the saved file to reflect the changes.  
The configuration values are reflected on the "Remote Panel Utility" screen.
5. If the setting changes are complete then press "OK".  
This makes it possible to send the configuration value to cutting plotter and it will be updated.



If you do not send your changes, press "Cancel".

Specifications are subject to change without notice.

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