

OPS675

Cutting Plotter Controller

User's Manual

MANUAL NO. OPS675-UM-151

GRAPHTEC

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Disclaimer

Some of the software images used in this manual are those that were used when the software was under development, and they may be slightly different from those actually displayed. There are no differences between the functions and setting layouts shown here and those of the actual version. We ask for your understanding.

About This Manual

This manual explains how to set up and operate the cutting plotter (the "plotter") by using the Cutting Plotter controller (the "controller") from a computer.

For information on setting up the plotter and installing the software, see "Setup Manual".

For information on operations from the control panel of the plotter, see "User's Manual".

*Chapter 2 and Chapter 4 through Chapter 9 in this manual describe the operations and settings that can be done from the menu screen that is shown by pressing the [CONDITION] key or the [MENU] key on the operation panel of the plotter. These chapter titles are followed by the corresponding plotter key or menu item names so that you can easily refer to "User's Manual".

Symbols Used in This Manual

The following symbols are used in this manual.

- CAUTION : Used to indicate cautions and restrictions to be observed for proper operation. Be sure to read the description that follows this label.
- Reference : Used to indicate information useful for operation and additional explanations.
- ➡ : Used to indicate pages and User's Manuals that contain relevant information.
- [] : Used to indicate the keys on the computer keyboard and the buttons on the controller.

Screen Images Used in This Manual

Screens that appear when FC8000 is connected to Windows Vista are used.

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1. Introduction to the Controller

Features

●Easy Setting from Your Computer

The controller enables you to set up and operate the plotter from your computer. Relevant settings are displayed on a single screen and you can easily find the setting that you want to see. You can use the driver to start the controller from the print menu in the application software and efficiently proceed a series of works ranging from image design to cutting.

●Saving Tool Conditions

Up to 100 tool conditions that are set in the controller can be saved to the media list. Contents in the media list can be saved as a file and loaded to your computer.

●Loading Plotter Setting/Uploading Settings to the Plotter

Tool conditions that are set in the operation panel of the plotter (Condition No. 1 through 8) can be loaded to the controller. You can edit the loaded settings in the controller and upload them to the plotter.

●Retrieving Information from the Plotter

You can retrieve error and condition information from the plotter and save it as a file.

●Importing/Exporting Advanced Settings

You can save advanced settings to any location on your computer as well as load setting files that have been saved.



CAUTION

Do not control more than one plotters by the controller. Depending on the operations, the settings in the plotters may not be properly controlled.



Reference

Cutting Master 2, the software that comes with the plotter, can output data that is created in Adobe® Illustrator® or CorelDRAW® (Windows only) directly to the plotter. Use Cutting Master 2 to output data that is created in Adobe® Illustrator® or CorelDRAW®. For more information on Cutting Master 2, see the User's Manual provided with Cutting Master 2.

Preparation to Use

Operation Environment

The following system environment (higher environment than one your OS recommends) is required to use the controller.

OS	Windows 2000/XP/Vista
CPU	Pentium III 800 MHz or greater
Memory	512 MB or greater
Monitor	1024 x 768 True Color is supported
Network interface	10 Base-T/100Base-TX
USB Interface	USB 2.0 (Full Speed)
Serial Interface	RS-232C compliant
Device	Mouse CD-ROM drive



CAUTION

To use the controller, the plotter must be connected to the computer using a USB, LAN (network), or RS-232C interface.

Checking the Settings in the Plotter

To use the controller, [USER PRIORITY] in the plotter must be set to [KEYPAD/BY PC]. For more information on the setting, see Chapter 4 "Convenient Functions" in User's Manual.

Installing the Controller

The controller is installed with the driver when you set up the plotter in Windows 2000/XP/Vista. For more information on how to install the controller, see "Setup Manual".

For information on how to uninstall the controller, see "Uninstalling the Controller" (▶page 33).

Starting the Controller

The controller can be started either from the print menu in the application software or the Start menu on the desktop.

CAUTION

- To use the controller, [USER PRIORITY] in the plotter must be set to [KEYPAD/BY PC]. For more information on the setting, see Chapter 4 "Convenient Functions" in User's Manual.
- Before starting the controller, make sure that your computer and the plotter are connected properly and that media is set in the plotter.
- Cuttings other than test and cross cuttings cannot be done when you start the controller from the Start menu.
- To start the controller from the print menu, [Start up the controller] must be checked. This option is in the [Options] tab of [Printing Preferences] in the driver software.

Reference

For more information on operating the controller screen, see "Nomenclature (Main Screen)" (▶ page 9).

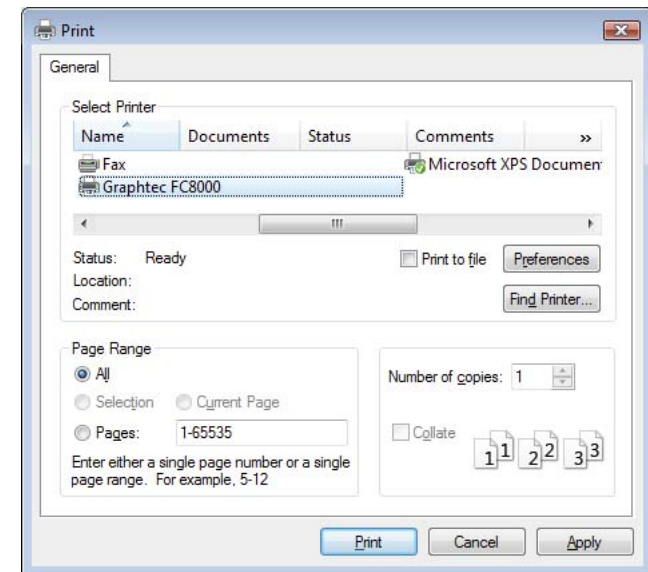
Starting from the Print Menu

1. Open an image that you want to plot in the appropriate application software.
2. Select the print command from the menu.

Reference

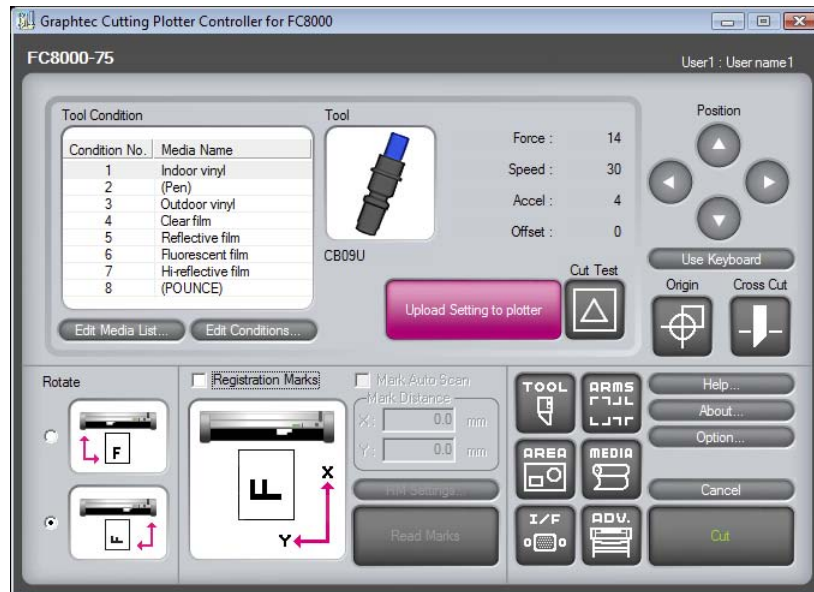
Operations are different depending on the types of application software. For more information, see the manual provided with the application software.

3. Select the plotter from the printer list.



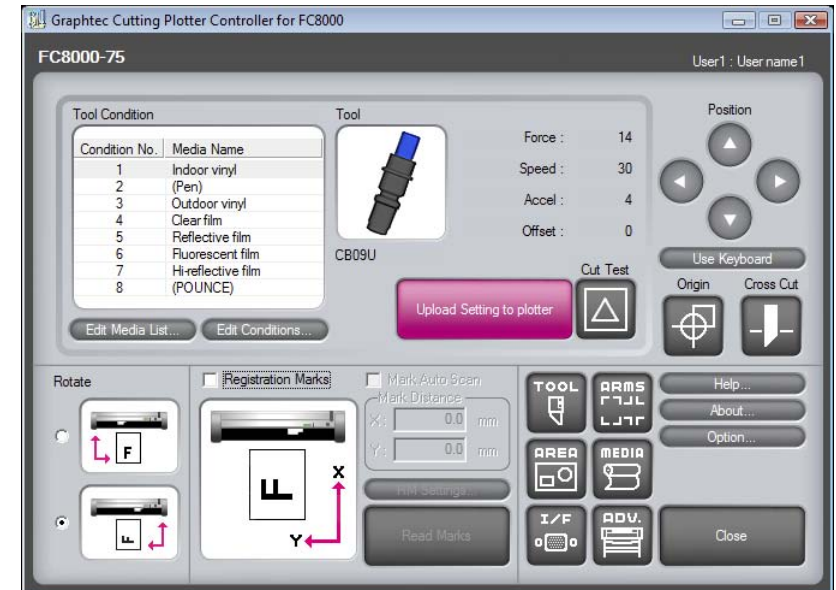
*The screen image above is an example from a Microsoft Word print screen.

The controller starts.

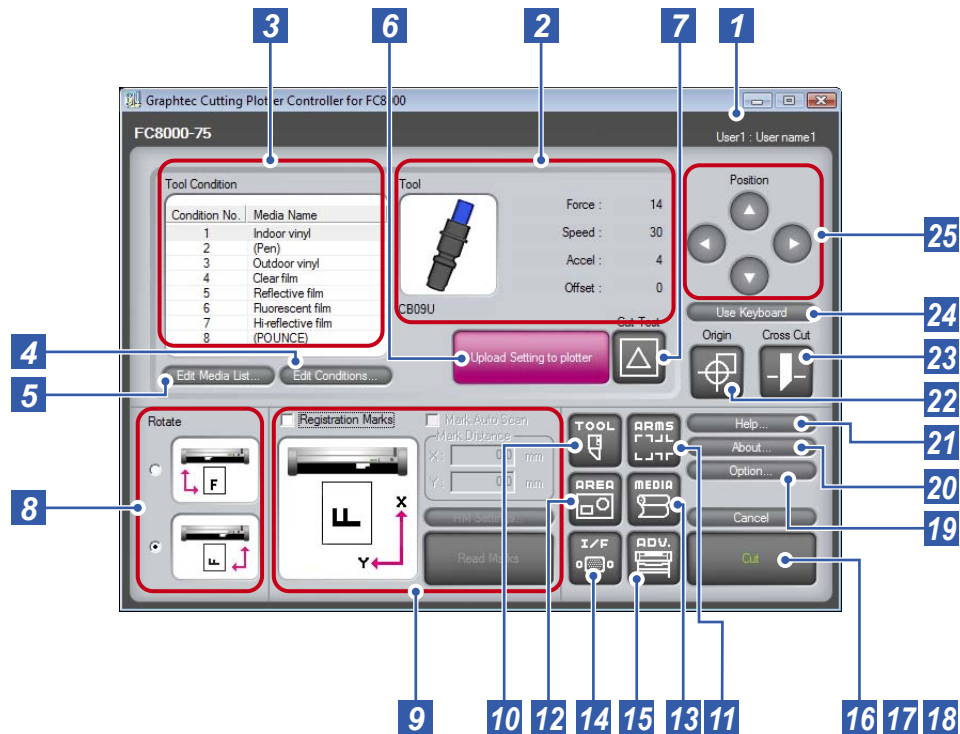


Starting from the Start Menu

1. From the Start menu, select [(All) Programs], [Graphtec Cutting Plotter Controller for FC8000], and then [Cutting Plotter Controller for FC8000].
The controller starts.



Nomenclature (Main Screen)



You can select a tool condition suitable for the plotted media or run a test cutting or cutting by specifying the position of the tool and the orientation of the media. You can also display the help and version information of the controller or open the screen for advanced and optional settings.

Reference

Some of the buttons are assigned keyboard shortcuts. The shortcut keys are as follows:

- [Use Keyboard]→[F6]
- [Origin]→[F5]
- [Cut Test]→[F8]

1	User1/2: User Name	Indicates the mode to which the plotter is set: User1 or User2. The name that is set in [User Name] on the [Option] screen (➡page 32) is displayed as the user name.
2	Settings Display Area	Displays the settings (tool, force, speed, accel, and offset) for the tool condition that is currently selected.
3	Tool Condition	Lists tool conditions from Condition No. 1 through 8. Click a condition to select it.
4	Edit Conditions	Opens the [Edit Conditions] screen. ➡2. Setting Tool Conditions [CONDITION] (page 11)
5	Edit Media List	Opens the [Edit Media List] screen. ➡3. Managing Media List (page 16)
6	Upload Setting to plotter	Overwrites the condition settings (tool conditions) in the plotter by the settings (tool conditions) in the controller.
7	Cut Test	Runs a test cutting under the tool condition that you set. ➡Test Cutting Patterns (page 15)
8	Rotate	Sets the plotting direction against the media or the direction to set the media printed by the printer in the plotter. ➡Selecting Rotation (page 10)
9	Registration Marks Setting	Used for a cutting where the registration mark is scanned. ➡7. ARMS Setting [ARMS] (page 24)
10	TOOL	Opens the [Tools Setting] screen. ➡4. Tools Setting [TOOL] (page 18)
11	ARMS	Opens the [ARMS Setting] screen. ➡7. ARMS Setting [ARMS] (page 24)
12	AREA	Opens the [Area Parameters] screen. ➡5. Setting Area Parameters [AREA] (page 21)
13	MEDIA	Opens the [Media Setting] screen. ➡8. Media Setting [MEDIA] (page 28)
14	I/F	Opens the [Interface] screen. ➡6. Interface Setting [I/F] (page 23)
15	ADV.	Opens the [Advance] screen. ➡9. Advance [ADV.] (page 30)
16	Cancel ^{*1}	Cancels the setting and closes the controller.
17	Cut ^{*1}	Cuts the media based on the settings you made.
18	Close ^{*2}	Cancels the setting and closes the controller.

19	Option	Open the [Option] screen. It is able to check the error data and conditions of the Plotter main unit, and also to import/export the set content. ➔ 10. Option Settings (page 31)	
		Displays the version information of your controller.	
		Displays the help of the controller. Pressing the [F1] key on the computer keyboard at each screen displays the help on the setting item.	
		Sets the current tool position as an origin point.	
		Cuts off the media at the current tool position. In the plotter, a message that tells you to replace the media will be displayed on the LCD screen if the sheet media is set.	
24	Use Keyboard ^{*3}	Enables the position to be moved by using the [←↑↓→] keys on the computer keyboard.	
		Up/down/left/right	Press one of the [←↑↓→] keys on the keyboard.
		High-speed movement	Press the [Ctrl] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Low-speed movement	Press the [Shift] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Skew	Press the up/down arrow key and the left/right arrow key at the same time. For example, [←] and [↑] or [↓] and [→].
25	Position ^{*3}	Moves the tool to the desired position.	
		Up/down/left/right	●●● Press one of these buttons: ●.
		High-speed movement	Press the [Ctrl] key on the keyboard and ●, ●, ●, or ● at the same time.
		Low-speed movement	Press the [Shift] key on the keyboard and ●, ●, ●, or ● at the same time.

*1: Displayed only when the controller is started from the print menu.

*2: Displayed only when the controller is started from the Start menu.

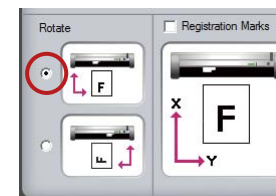
*3: Can be operated when the plotter is in READY status.

Selecting Rotation

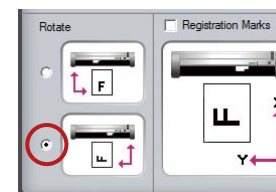
•When [Registration Marks] is off:

Set the cutting direction against the media.

To set in the plotter from upward of the image, select the upper option.



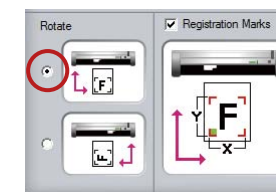
To set in the plotter from right side of the image using the roll media, select the lower option.



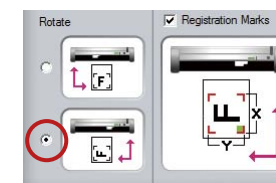
•When [Registration Marks] is on:

Set the direction to set the media printed by the printer in the plotter.

Select the upper option to insert the media in the plotter from the top of the image.



Select the lower option to insert the media in the plotter from the right side of the image.



For more information on registration marks, see "7. ARMS Setting [ARMS]" (➔page 24).

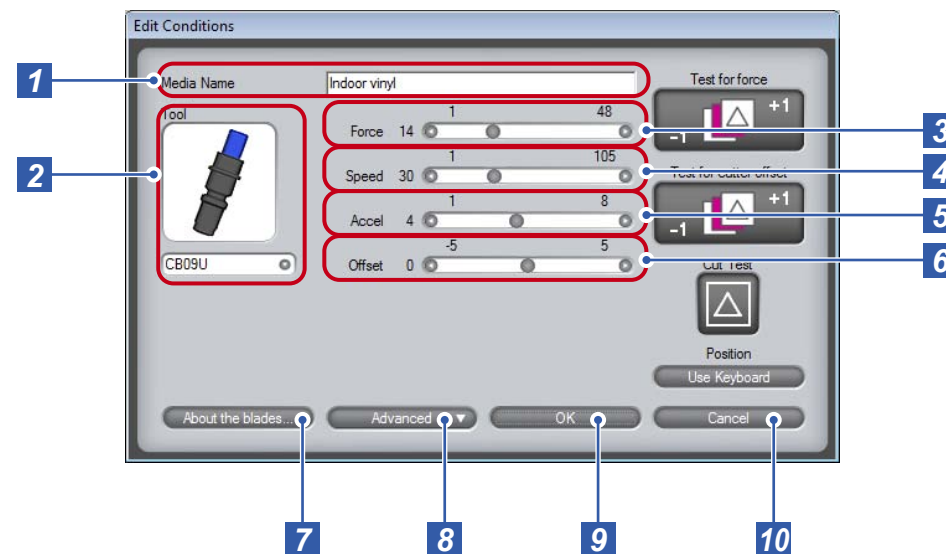
2. Setting Tool Conditions [CONDITION]

Performing one of the following tasks opens the corresponding screen for setting tool conditions. Setting method is the same for all of the screens. In this section, the [Edit Conditions] screen is used for explanation.

- In the main screen (➡page 9), click [Edit Conditions] to open the [Edit Conditions] screen
- In the [Edit Media List] screen (➡page 16), click [Edit] to open the [Edit] screen
- In the [Edit Media List] screen (➡page 16), click [New] to open the [New] screen
- In the [Edit Media List] screen (➡page 16), click [Copy] to open the [Copy] screen
- In the [Edit Media List] screen (➡page 16), click [Load] to open the [Load] screen

In the tool condition setting screens, you can edit a tool condition or create a new one. You can also run a cutting test under the condition that you set.

Basic Settings



Make the basic tool condition settings.
You can set the cutter type, force, speed, acceleration, and offset.



CAUTION

- Although installing the controller also installs a standard condition setting file, optimal settings may differ depending on the use environment, the types of media, applications, and other factors. To set values, see "Guideline for Settings (for Each Media)" (page 12), "Guideline for Settings (When Plotter Pen is Selected)" (page 12), and "Guideline of Offset Setting (for Each Cutter Blade)" (page 12). Be sure to run a cutting test to determine the optimal tool condition before performing actual cutting.
➡ "Cut Test" on page 14
- Clicking [OK] directly after editing the settings overwrites the tool condition under the current media name. To create a new tool condition with the settings that you have edited, enter a new name in [Media Name] and then click [OK].



Reference

- Smaller values for the speed and the acceleration require longer cut time, but the quality is stable. Set small values for the speed and the acceleration when you cut wide media because such media may move during a cutting process and good cut quality may not be obtained.
- When you use a plotter pen, set the FORCE to the lowest setting to prolong the pen life. Adjust the speed so there will be no faint lines.

2. Setting Tool Conditions [CONDITION]

1 Media Name	Displays the name of the tool condition that is currently selected. To save a tool condition as a new one, enter a new file name here. ➡Media Name (page 16)	
2 Tool	Specify the part no. of the cutter blade, or the pen.	
3 Force	Set the force of the cutter or the pen.	
	Setting range	1 ~ 48
4 Speed	Set the move speed of the tool.	
	Setting range	1 to 105 cm/sec.
5 Accel	Set the acceleration of the tool.	
	Setting range	1 ~ 8
6 Offset	Fine-adjust the difference between the tip of the blade and the center of the plunger. Set this value based on the type of the cutter blade that you use. ➡What is Offset (page 12) ➡Guideline of Offset Setting (for Each Cutter Blade) (page 12)	
7 About the blades	Displays detailed information on the cutter blade and the plunger of the tool that is currently selected.	
8 Advanced	Displays advanced setting items. ➡Advanced Control of Tool Behavior (page 13)	
9 OK	Saves the set content as the current media name and closes the tool condition setting screen. To newly save it, enter the optional file name into media name.	
10 Cancel	Cancels the settings and closes the tool condition setting screen.	

Guideline for Settings (for Each Media)

Media to be used	Thickness (mm)	Tool 2	Blade to be used	Force 3	Speed 4 (cm/sec.)	Acceleration 5
Film for outdoor use	0.05 ~ 0.08	CB09U	CB09UA	10 ~ 14	30 or under	3 ~ 4
Film for decorative use	0.08 ~ 0.1	CB09U	CB09UA	14 ~ 17	30 or under	3 ~ 4
Film for outdoor use	0.05 ~ 0.08	CB15U	CB15UB	10 ~ 14	20 or under	1
Transparent or semitransparent film	0.08 ~ 0.1	CB09U	CB09UA	14 ~ 20	30 or under	3 ~ 4
Reflective film	0.08 ~ 0.1	CB09U	CB09UA	14 ~ 20	30 or under	3 ~ 4
Fluorescent film	0.20 ~ 0.25	CB09U, CB15U	CB09U, CB15U	20 ~ 24	10 ~ 20	2 ~ 3
Thick materials	0.5 ~ 0.1	CB15U	CB15U-K30	17 ~ 24	5 ~ 15	2 ~ 3
High-intensity reflective film	0.25 ~ 0.3	CB15U	CB15UA	24 ~ 35	5 ~ 40	1
Paint protection film	-	CB09U	CB09UA	14 ~ 35	30	4

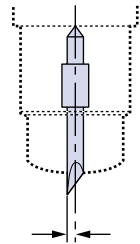
Guideline for Settings (When Plotter Pen is Selected)

Pen type	Part no.	Force	Speed (cm/sec.)	Acceleration
Water-based fiber-tip pen	KF550 Series	10 ~ 12	30	4
Disposable ink pen	SD pens (PHP33-INK)	7 ~ 8	20	2
Oil-based ballpoint pen	KB140 Series (PHP31-BALL)	21 ~ 22	60	4

What is Offset

It will adjust the difference between the tip of the blade in the plunger and the center of the plunger. There are standard adjustment values for each cutter blades. Fine adjustment will be made to that standard values here. (Adjustment will be made with standard value as 0.)

For the Pouncing, specify the distance (length) of 1 to 99mm, which allows the tool to go down.



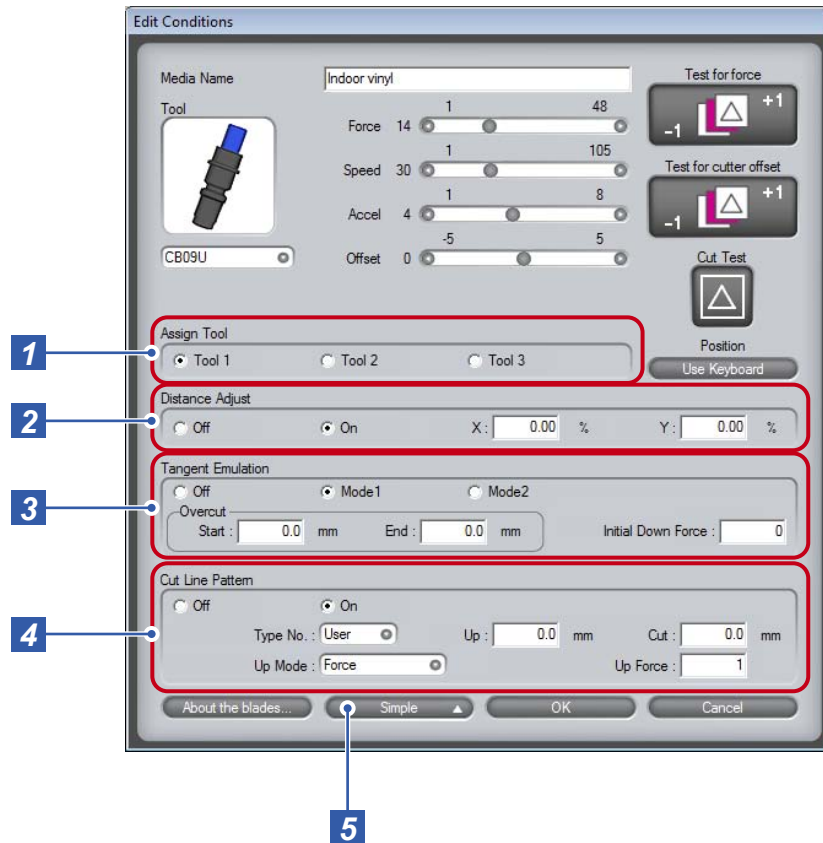
Guideline of Offset Setting (for Each Cutter Blade)

Blade material/tool	Blade type	Setting range	Standard Value
Ultra-hard blade	CB09U	±5	18
	CB15U-K20-SP	±5	28
	CB15U	±5	28
	CB15UB	±5	5
	CB15U-K30	±5	28
Other ^{*1}	-	1 ~ 45	1
Pouncing ^{*2}	-	1 ~ 99 mm	1

*1: Set for the setting values not displayed in the cutter blade type when cutting the media that is hard to cut.

*2: For the Pouncing, specify the distance (mm) between holes.

Advanced Control of Tool Behavior



Make advanced tool condition settings based on the property of the media that you use.

CAUTION

- For the setting of cut line pattern, normally use the default value of off.
- For cutting by using the settings in [Cut Line Pattern] (other than [Off]), use Tool 3. Unlike normal media cutting (half cutting), cutting with a perforated pattern (cutting out) will damage the cutting mat and may affect the quality of normal cutting. Therefore, do not use Tool 1 for cutting with a perforated pattern.
- A fee will be charged for replacement of the cutting mat that is damaged by the use of Tool 1 for cutting with a perforated pattern.
- For the Pouncing, be sure to use the Tool 1. Using the Tool 3 may possibly damage the plotter.

1	Assign Tool	Specify the tool to be used.	
		Tool 1	The tool attached in backward position of the holder is used.
		Tool 2 ^{*1}	The tool attached on the station is used.
2	Distance Adjust	Tool 3	The tool attached in forward position of the holder is used. This setting is used when cutting off the media completely with the backing sheet (when cutting them out).
		Adjust the difference between the data and the line of actual cutting or plotting that occurs due to the material or thickness of the media. In the vertical axis (Y) and the horizontal axis (X) respectively, specify the percentage to use for the adjustment.	
		Off	Adjustment is not performed.
		On	Adjustment is performed.
3	Tangent Emulation	Setting range	-2.00 ~ +2.00 %
		Use this function to cut media whose thickness is equal to or greater than 0.3 mm. Off/Mode1/Mode2: ➡What is Tangential Emulation (page 14)	
		Setting range	[Overcut (Start, End)] 0.0 to 0.9 mm [Initial Down Force] 0 to 20
4	Cut Line Pattern	Specify whether to perform full line or dashed (perforated) line cutting. ➡Cut Line Pattern (page 14)	
		Off	Full line cutting is performed.
		On	Dashed (perforated) line cutting is performed. When setting to On, you can either select a pattern from 0 to 7 or set an arbitrary pattern (User).
5	Simple	Hides advanced setting items.	

*1: Available only when you use a plotter with the 2 pen option.

What is Tangent Emulation

The blade does not rotate smoothly when cutting media whose thickness is equal to or greater than 0.3 mm and the start and end points may not match or the corners cannot be cut finely. Tangent Emulation enables you to cut thick media finely by fine-controlling the movement of the tool during a cutting process.

For both Mode1 and 2, you can specify the overcut lengths (extra cut lengths) for the start and end points, from 0.0 to 0.9 mm.

In addition, when cutting thick media, the cutter blade may not be able to go down deep in the media at the beginning of the cutting even if the force required to the cutting is set, and there may be uncut portion left at the start point. By setting initial down force, tool down is performed with the combined force of cutting force and initial down force only at the start point and, therefore, the media is cut properly from the start point.

For both Mode1 and 2, the possible values for [Initial Down Force] are from 0 to 20.

Mode1	Overcuts at the start and end points as well as the sharply angled corners to prevent any uncut portion from being left. At the sharply angled corners, the blade is raised to the surface of the media and made rotate before it is lowered again so that sharp cutting can be realized.
Mode2	Overcuts only at the start and end points. The blade is raised to the surface of the media and made rotate only at the start point. Because the control in this mode is simpler than that in Mode1, you can use this mode to reduce the cut time.

Cut Line Pattern

When [Cut Line Pattern] is On, the media is perforated at the interval that you set. If the length of the part that is left uncut is too short, the cut object can easily be cut off. In the case where the object is cut off during the cutting process, set a value that specifies a longer uncut length.

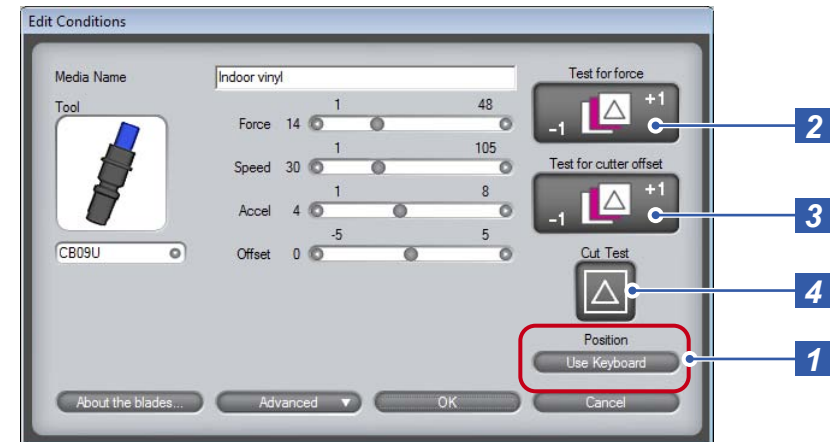
You can select a pattern from the following eight predefined patterns or set an arbitrary pattern by selecting [User].

Type No.	Uncut length for cutting distance of 8 mm	
0	0.15 mm	
1	0.20 mm	
2	0.25 mm	
3	0.30 mm	
4	0.35 mm	
5	0.40 mm	
6	0.45 mm	
7	0.50 mm	
User	Up	Specify the length of the part to be left uncut. The possible values are from 0.1 to 10.0 mm.
	Cut	Specify the length of the part to be cut. The possible values are from 0.1 to 100.0 mm.

Once the pattern is selected, make the following setting as necessity.

Up Mode	Specify whether to raise the tool totally at the uncut part (Up) or to perform the cutting with reduced force (Force).
Up Force	If you set [Up Mode] to [Force], specify the cutting force at tool up. The possible values are from 1 to 48.

Cut Test



Run cutting tests to determine if the media is cut properly under the tool condition that you set.



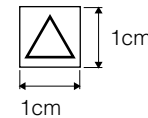
Reference

- The tool condition is set appropriately if the media is cut off completely and a slight trace left on the backing sheet. Readjust the settings if any uncut portion exists on the media or the backing sheet is cut. Also readjust the blade length of the cutter (►Chapter 2 "Preparing to Cut" in User's Manual).
- Some of the buttons are assigned keyboard shortcuts. The shortcut keys are as follows:
 - [Test for force]→[F9]
 - [Test for cutter offset]→[Shift] + [F9]
 - [Cut Test]→[F8]

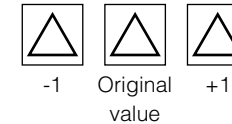
1	Position (Use Keyboard)	Click this key and then use the keyboard to move the tool to the position at which the you want to cut the test pattern.	
		Up/down/left/right	Press one of the [←↑↓→] keys on the keyboard.
		High-speed movement	Press the [Ctrl] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Low-speed movement	Press the [Shift] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Skew	Press the up/down arrow key and the left/right arrow key at the same time. For example, [←] and [↑] or [↓] and [→].
2	Test for force	Runs three cutting tests by changing the cutting force by 1. The tests are performed with the value that you set and the values that are increased or decreased by 1 from the original value.	
3	Test for cutter offset	Runs three cutting tests by changing the offset value by 1. The tests are performed with the value that you set and the values that are increased or decreased by 1 from the original value.	
4	Cut Test	Runs one cutting test under the tool condition that you set. ➡ Test Cutting Patterns (page 15) ➡ How to Check Offset (page 15)	

Test Cutting Patterns

Cut Test (once with the original value)

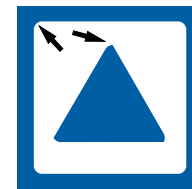


Test for force/Test for cutter offset (three times with the original value and ± 1)

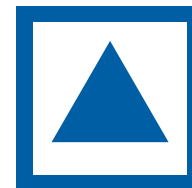


How to Check Offset

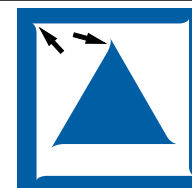
Check if the offset value is set correctly by using the following information as a reference:



Not enough adjustment. Increase the offset value.

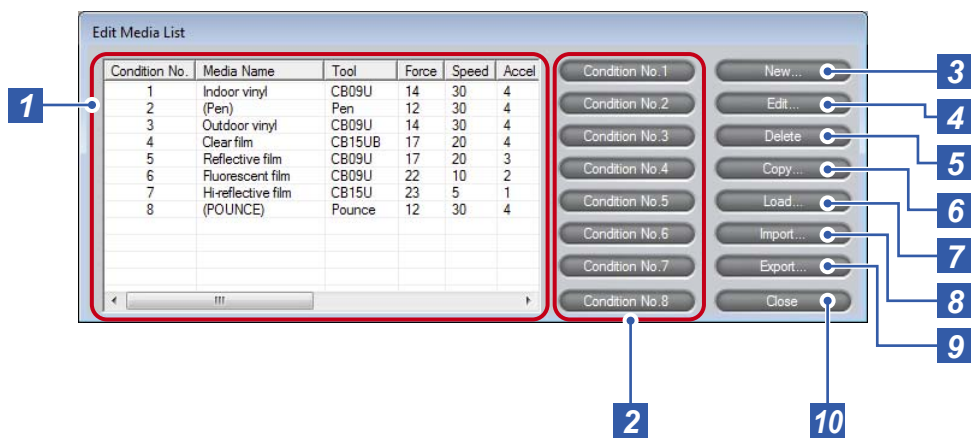


Optimal offset value.



Too much adjustment. Decrease the offset value.

3. Managing Media List



In the main screen (➡page 9), click [Edit Media List] to open the [Edit Media List] screen.

In the [Edit Media List] screen, you can create a new tool condition and delete, replicate, or edit the existing tool conditions. You can also load settings from the plotter or assign a Condition No. (1 to 8) to a condition. The condition with a Condition No. can be called in the plotter.

You can save a tool condition as a file to any location on your computer (export) or load a setting file that have been saved (import).

CAUTION

- Although installing the controller also installs a standard media list (a list of tool conditions), optimal settings may differ depending on the use environment, the types of media, applications, and other factors. Be sure to run cutting tests and set the optimal tool condition before performing actual cutting.
- On Windows Vista, the media list is saved for each logged-on user. If you want to use the same media list as before, log on as the same user.
- On Windows 2000/XP, changes made to a media list are saved when you exit the controller as long as you are logged on as administrator. If you are logged on as user other than administrator, the changes are not saved when you exit the controller.

Reference

Up to 100 tool conditions can be saved to the list. If you try to save tool conditions that exceed the limit of 100, a message will appear. In that case, you should delete unnecessary setting files.

1	List	Lists media names and the corresponding tool conditions. Click a condition to select it. To select multiple conditions, click them while pressing the [Ctrl] or [Shift] key on the keyboard. ➡Media Name (page 16)
2	Condition No.1 to 8	Assign a Condition No. (1 to 8) to the tool condition that is currently selected. The condition with a Condition No. can be called in the plotter. Select a tool condition from the list and click one of the buttons: [Condition No.1] to [Condition No.8].
3	New	Opens the [New] screen. ➡2. Setting Tool Conditions [CONDITION] (page 11)
4	Edit	Open the [Edit] screen. ➡2. Setting Tool Conditions [CONDITION] (page 11)
5	Delete	Deletes the tool condition that is currently selected. The tool condition to which a Condition No. (1 to 8) is assigned cannot be deleted.
6	Copy	Opens the [Copy] screen. ➡2. Setting Tool Conditions [CONDITION] (page 11)
7	Load	Loads tool conditions from the plotter and opens the [Load] screen. ➡2. Setting Tool Conditions [CONDITION] (page 11)
8	Import	Loads the media list that is stored in your computer. ➡Import/Export Functions for Tool Conditions (page 16)
9	Export	Saves the tool condition that is currently selected to a location on your computer. ➡Import/Export Functions for Tool Conditions (page 16)
10	Close	Closes the [Edit Media List] screen.

Media Name

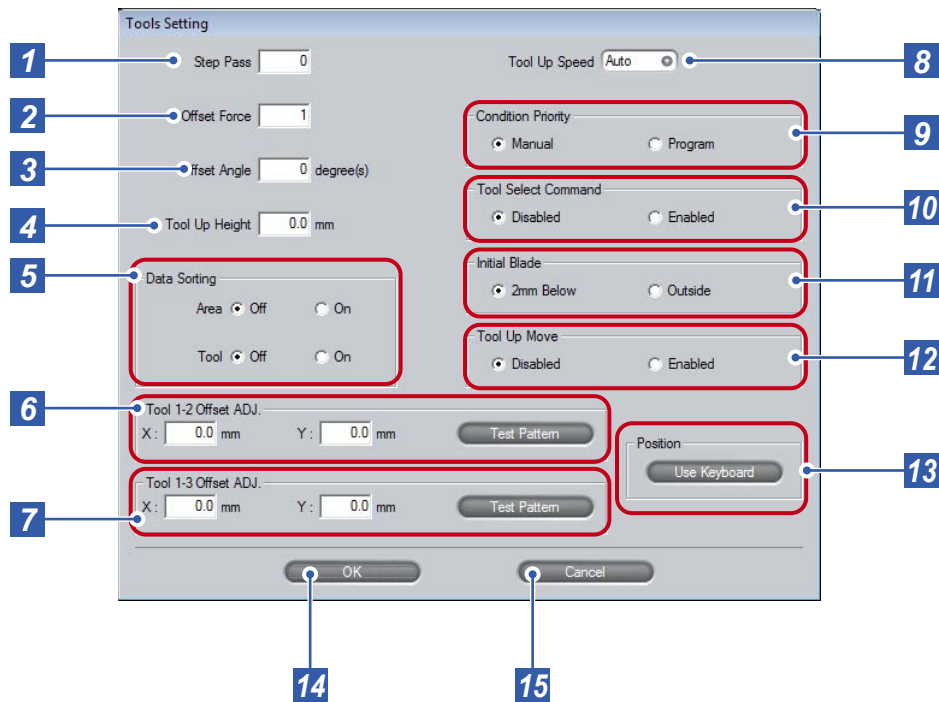
The controller manages tool conditions by using media names. This is because the media to be used determines the tool condition. Note that, however, optimal condition settings for the same media may differ depending on the use environment or the shape of the image to be plotted. Therefore, saving a tool condition under a file name that consist of the media name and additional description by which the variation of the settings can be understood may help to find the settings that are close to the optimal condition.

Import/Export Functions for Tool Conditions

By using these functions, you can save a tool condition that is set in the controller to any location on your computer or load a tool condition that has been saved to your computer. You can also save multiple tool conditions as a single file and load the file. The extension of the files that can be imported or exported is ".GMIE".

Export	1. Select a condition from the media list and click [Export]. 2. Enter the file name in the [Save As] screen and specify the location to which you save the condition. 3. Click [Save] to save the setting file.
Import	1. Click [Import]. 2. Select the file to load in the [Open] screen. 3. Click [Open] to load the condition and add it to the bottom of the list.

4. Tools Setting [TOOL]



In the main screen (►page 9), click [TOOL] to open the [Tools Setting] screen.

In the [Tools Setting] screen, you make advanced settings for the behavior of the tool and how plotting data is processed.

1	Step Pass	Set the units by which data is processed. Normally, set the value to [0]. ►What is Step Pass (page 19)
		Setting range 0 ~ 20
2	Offset Force	Specify the cutting force when the direction of the blade is set in the initial operation. The value is also used as the cutting force when blade rotation control is performed when tangential emulation is used.
		Setting range 1 ~ 40
3	Offset Angle	Specify the angle to use as the reference to determine if blade angle control should be performed. ►What is Offset Angle (page 19)
		Setting range 0 to 60 degrees
4	Tool Up Height	Specify the height by which the tool is raised to the surface of the media (Tool Up). Set how high the tool should be raised from the reference height.
		Setting range 0.0 to 5.0 mm
5	Data Sorting	Specify whether to store the data in the buffer memory and sort them before plotting starts. ►What is Data Sorting (page 19)
		Area Off/On
		Tool Off/On
6	Tool 1-2 Offset ADJ.*1	If there is any difference in the drawing, adjust the distance between Tool 1 and Tool 2. Click [Test Pattern] to cut the test pattern based on the adjusted setting. ►Tool 1-2 Offset ADJ./Tool 1-3 Offset ADJ. (page 19)
		Setting range -3.0 mm to +3.0 mm
7	Tool 1-3 Offset ADJ.	Adjust the distance between Tool 1 and Tool 3. Click [Test Pattern] to cut the test pattern based on the adjusted setting. ►Tool 1-2 Offset ADJ./Tool 1-3 Offset ADJ. (page 19)
		Setting range -3.0 mm to +3.0 mm
8	Tool Up Speed	Specify the move speed of the tool when the tool is raised.
		Setting range Auto, 10/20/30/40/50/60 cm/sec.
9	Condition Priority	Specify whether the tool conditions can be set or edited from the control panel of the plotter and from the controller.
		Manual Conditions can be set/edit only from the control panel.
		Program Conditions can be set/edit from either the control panel or the controller.

10	Tool Select Command	Specify whether to enable or disable tool replace commands ("J" in GP-GL, "SP" in HP-GL), independently from the setting in [Condition Priority].	
		Enabled	Enables tool replace commands.
		Disabled	Disables tool replace commands.
11	Initial Blade	Specify the position at which initial adjustment of the blade direction is done. ◆What is initial adjustment of the blade direction (page 20)	
		2mm Below	The initial adjustment of the blade direction is done at 2 mm below the start point of the cutting.
		Outside	The initial adjustment of the blade direction is done outside of the cutting area.
12	Tool Up Move	Specify whether the plotter moves the tool each time it receives the coordinates or directly moves the tool to the last coordinates when the controller sends instructions in series to the plotter to raise and move the tool.	
		Enabled	The tool moves along the coordinates received.
		Disabled	The tool moves to the last coordinates.
13	Position (Use Keyboard)	Click this key and then use the keyboard to move the tool to the position at which the you want to cut the test pattern.	
		Up/down/left/right	Press one of the [←↑↓→] keys on the keyboard.
		High-speed movement	Press the [Ctrl] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Low-speed movement	Press the [Shift] key and one of the [←↑↓→] keys on the keyboard at the same time.
		Skew	Press the up/down arrow key and the left/right arrow key at the same time. For example, [←] and [↑] or [↓] and [→].
14	OK	Saves the settings and closes the [Tools Setting] screen.	
15	Cancel	Cancels the settings and closes the [Tools Setting] screen.	

*1: Available only when you use a plotter with the 2 pen option.

What is Step Pass

A set of units by which cut data is processed is called Step Pass. If set, the cutting is performed by skipping blade control for the data that is less than the specified value. Set this setting when the space is extremely small in the cut data, to reduce cut time while performing stable blade rotation control. The smaller the value is, the finer blade control is performed and, therefore, the quality is improved but cut time becomes longer. Normally, set the value to [0]. One unit is the distance that you set [Step Size] in [GP-GL] in the [Interface] screen (◆page 23).

What is Offset Angle

The plotter analyzes the cutting data to determine if blade angle control should be performed based on the change amount of an angle. Angle control is performed when the change amount of an angle is equal to or more than the value that you set in [Offset Angle]. If a small value is set, angle control is performed frequently for some image shapes and, therefore, the quality is improved but cut time becomes longer. On the other hand, a large offset angle value reduces the cut time but an image different from the intended one may be cut.

What is Data Sorting

This is a function to store plotting data in the buffer memory and arrange the process order so that more efficient plotting can be done.

By the Area sort, the process order is arranged so that the movement distance of the tool in the feed direction becomes the shortest at tool up.

By the Tool sort, the process order is arranged so that plotting with Tool 1 is performed last if the data for Tool 1 and Tool 2 are mixed in the plotting data. Available only when 2 pen (Option) is selected.

If [Data Sort] is set to on, the time before the plotting starts becomes longer because data is temporarily accumulated in the buffer memory.

Set the data sort in the controller to off when the data that has already been sorted with the application or driver software is used for plotting.

Tool 1-2 Offset ADJ./Tool 1-3 Offset ADJ.

Specify how much Tool 2 or Tool 3 is moved based on the Tool 1.

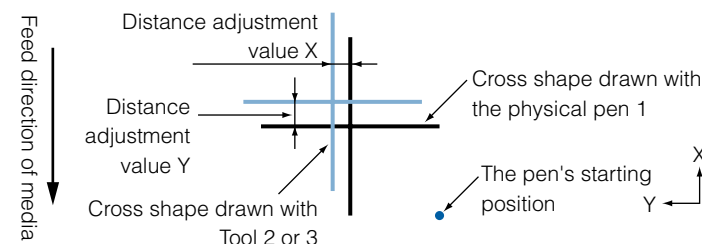
•Tool 1-2 Offset ADJ.

Adjust the positions of Tool 1 and Tool 2 in the plotter with 2 pen option. Use this setting when there is a difference between drawings by the two tools. For adjustment values X and Y, see the figure below.

•Tool 1-3 Offset ADJ.

Adjust the positions of Tool 1 and Tool 3 Use this setting when there is a difference between drawings by the two tools. For adjustment values X and Y, see the figure below.

1. Correctly set the Cutter plunger or 2 Plotter pens, and turn on the power source.
2. Make sure that the plotter is in ready status.
3. Open the [Tools Setting] screen of the controller.
4. Click the [Position (use Keyboard)], and then use the keyboard of PC to move the Tool carriage to the position at which you want to cut the [+] (test pattern). (For both X and Y directions, move it to 50mm and over inside of the plotting area.)
5. Click [Test Pattern] to cut the test pattern.
6. Measure the distance between 2 tools through the test pattern plotted.



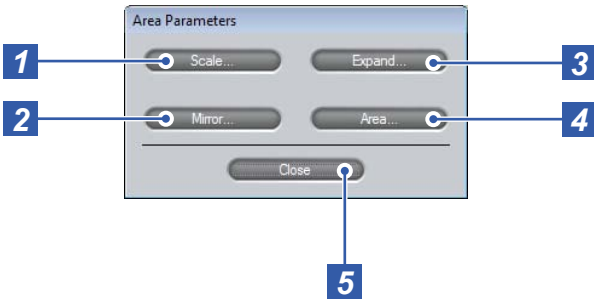
As an example, in the figure above, it needs to move in negative directions for both X and Y directions, so both of the adjustment values will be negative values.

7. Repeat the procedures 5 to 6 until the difference between tools disappears.

What is initial adjustment of the blade direction:

Initial adjustment of the blade direction is an operation that softly puts the blade on the media to align the blade directions right after turning on the power source of plotter or after changing the condition settings.

5. Setting Area Parameters [AREA]



In the main screen (➡page 9), click [AREA] to open the [Area Parameters] screen.
In the [Area Parameters] screen, you set values regarding to the plotting area.

CAUTION

- Although plotting can be performed at a position on and outside of the push rollers when the expand limit is set to a positive value in [Set Expand Limit] under [Expand], some media may not be fed properly because the push rollers move on the plotted surface.
- When the expand limit is set to +8 mm or higher, Initial may be performed outside the loaded media, regardless the setting in [Initial Blade] in the [Tools Setting] screen (➡page 18) In this case, caution is required because the blade may be damaged.

Reference

- When turning mirror mode on or off, the Area settings are initialized.
- You should set a Expand setting before sending the plotting data to the plotter, When you change the setting, the plotter clears data in the buffer memory to perform initial settings.
- In [Area], set the values in [Set Upper Right] and [Set Lower Left] so that the distance between them is equal to or larger than 5 mm.

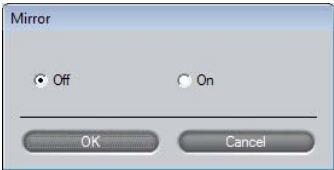
1	Scale	Opens the [Scale] screen. ➡Scale Setting (page 21)
2	Mirror	Opens the [Mirror] screen. ➡Mirror Setting (page 21)
3	Expand	Opens the [Expand] screen. ➡Expand Setting (page 22)
4	Area	Opens the [Area] screen. ➡Area Setting (page 22)
5	Close	Closes the [Area Parameters] screen.

Scale Setting



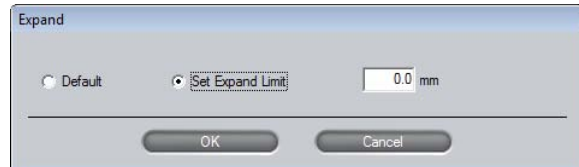
Plotting is performed with the enlarged/shrunk size.
Scales that can be set are 1/8, 1/4, 1/2, 1, 2, 3, 4, 5, 6, 7, and 8 (multiplications).

Mirror Setting

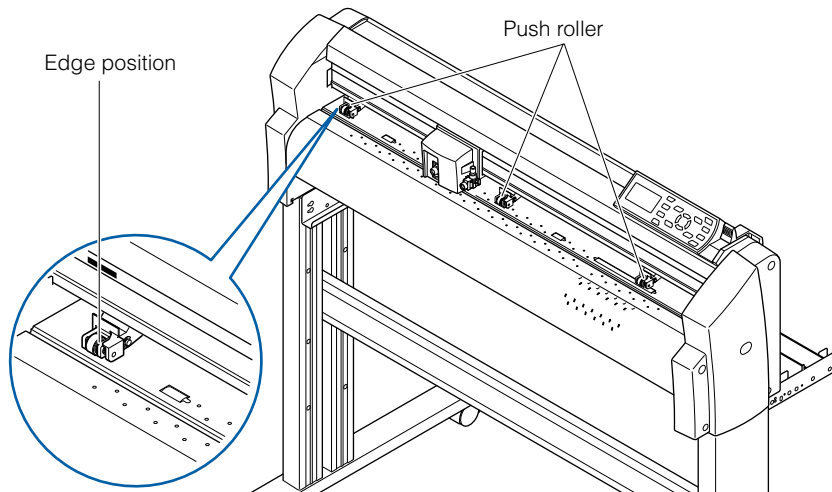


Sets the mirror mode that reverses the origin point and vertical and horizontal coordinate axes.
Selecting On enables the mirror mode.
When the plotter power is turned off, the mirror mode is also turned off.

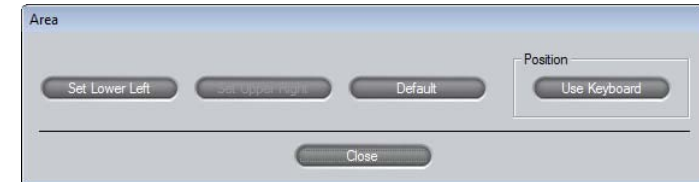
Expand Setting



Broaden or narrow the width of the plotting area.
 When the initial value ([Default]) is used, the width expands to the internal edge of the push rollers (See the figure below).
 Select [Set Expand Limit] and enter a negative value to obtain narrower width or enter a positive value to obtain broader width than when the initial value is used.
 The possible values are from -10.0 to +10.0 mm.

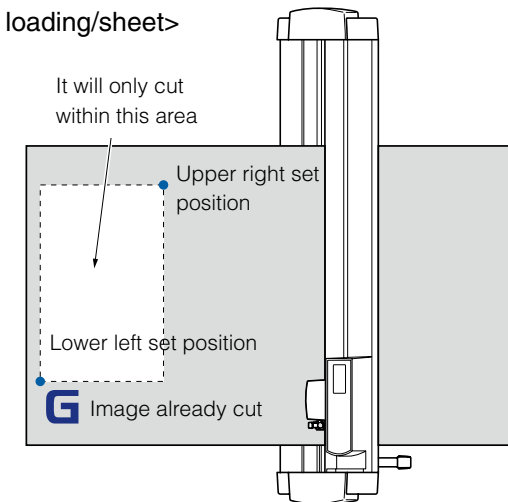


Area Setting

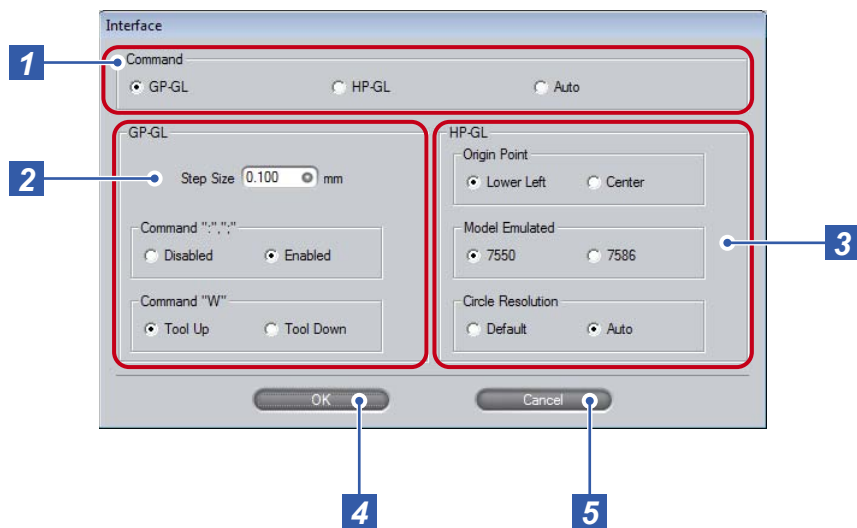


Set the plotting area that you want. The square specified by the points that are set by using [Set Upper Right] and [Set Lower Left] is the plotting area.
 This setting is used when, for example, you want to plot on a free area on the plotted media.
 To set a plotting area, perform the following procedure:
 1. Click [Position (Use Keyboard)].
 2. Press one of the [←↑→↓] keys on the keyboard to move the tool to the position that you want to set as the lower left point and click [Set Lower Left].
 3. Press one of the [←↑→↓] keys on the keyboard to move the tool to the position that you want to set as the upper right point and click [Set Upper Right].
 To use the setting area for use in media setting, select [Default].

<For rear loading/sheet>



6. Interface Setting [I/F]



Click  [I/F] on the main screen (➡page 9) to open the [Interface] screen.
The settings related to Interface can be done in the [Interface] screen.



CAUTION

When the controller is started from the driver software, select the GP-GL command.

1	Command	Specify the plotting command. Select one of GP-GL command, HP-GL command or AUTO. Select [Auto] to automatically determine the command. (User's Manual Chapter 11 "Setting of controls from Computer")	
2	GP-GL	Step Size	Specifies the movement distance per step. Select from 0.100mm, 0.050mm, 0.025mm, and 0.010mm.
		Command ":"", ":", "	Enables/disables Command ":"", ":", "
		Command "W"	Specifies whether to raise the tool or keep the current tool state before moving the tool to the start point when "W", instruction to draw an arc, is issued. When [Tool Down] is selected, the tool moves, keeping the same state (raised or lowered) as one right before the instruction is issued. When [Tool Up] is selected, the tool is raised and then moved. This setting is valid only when the tool is a cutter blade.
3	HP-GL	Origin Point	Sets the lower left or center of the plotting area as the origin point.
		Model Emulated	Sets the response to the "OI" command. Select [7550] to set 7550 as the value of the response to "OI" command. Select [7586] to set 7586 as the value of the response to "OI" command.
		Circle Resolution	Specifies whether to automatically set the resolution or use the fixed value of 5 degrees when the instruction to draw an arc is issued.
4	OK	Saves the settings and closes the [Interface] screen.	
5	Cancel	Cancels the settings and closes the [Interface] screen.	

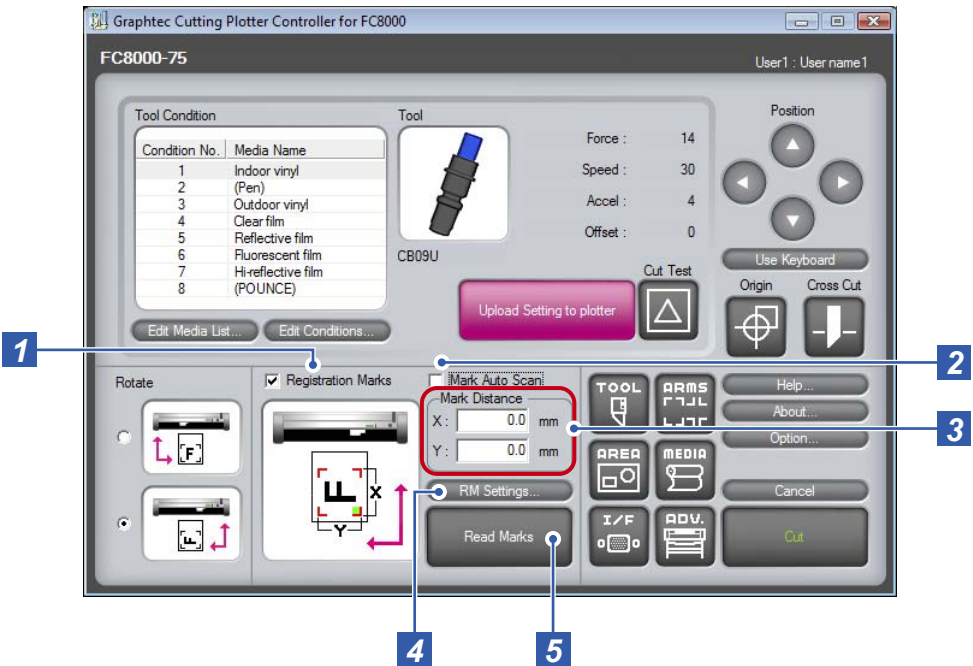
7. ARMS Setting [ARMS]

ARMS (Advanced Registration Mark Sensing System) is a system that automatically reads registration marks. The ARMS functions enable you to cut printed material more precisely. The main ARMS functions include 4points (2 axes warp) adjustment, multiple registration mark adjustment, segment area adjustment, and automatic scanning of the registration marks. In the controller, you can configure and perform 4points (2 axes warp) adjustment, segment area adjustment, and automatic scanning of the registration marks. Settings for ARMS are made in [Registration Marks] on the main screen (➡page 9), the [Registration Mark Settings] screen (➡page 25), and the [ARMS Setting] screen (➡page 26).

CAUTION

- ARMS is a function to align the cutting position with the print position as much as possible and does not guarantee an accuracy where the media is cut at the same print position and in the same size as defined by data.
- Unlike plotters (drawing machines), printers generally do not guarantee accuracy in terms of the print position and the size. In particular, when a laser printer and sheet media are used, the print may be distorted considerably and you may not be able to obtain a proper cutting result even if adjustment is made to the print by using the registration marks.

Registration Marks Setting



1	Registration Marks	Check this if you want to use registration marks to cut media that has an image printed. (Registration marks also need to be printed on the media beforehand.) ➡What is Registration Mark (page 25)
2	Mark Auto Scan	Check this if you want to scan and read the registration marks automatically when the cutting starts. This setting is available when [Registration Marks] is checked. ➡Mark Auto Scan (page 25)
3	Mark Distance	Specifies the distance between registration marks by using the vertical axis (Y) and the horizontal axis (X). Check the distance in the application software that you used to set the registration marks.
4	RM Settings	Opens the [Registration Mark Settings] screen. ➡Registration Mark Settings (page 25)
5	Read Marks	Starts reading of the registration marks. ➡Mark Auto Scan (page 25)

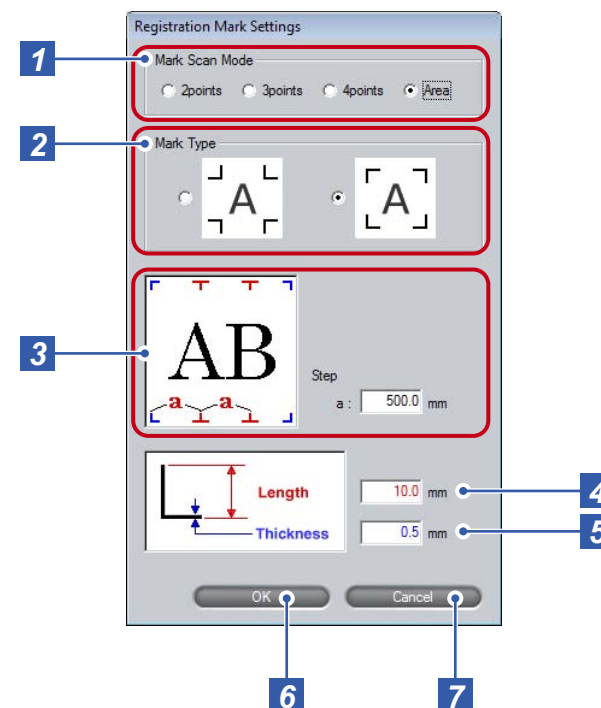
What is Registration Mark

A registration mark is a mark to align positions to cut the printed image properly. Set marks around the image before printing it. The plotter uses a registration mark sensor to read the marks and corrects the position or distortion of the image before performing cutting. For proper reading of the registration marks, ensure that the printed image does not go into or around the marks.

Mark Auto Scan

This is a function to scan and read the registration marks automatically when the cutting starts. Registration marks within a certain area from the current position of the tool to the center of the media are detected. However, marks may not be detected if there is no mark near the area. In such case, turn [Mark Auto Scan] off*, move the tool above the first registration mark (Registration Mark located at the position painted with green on the drawing in main screen of the controller), and then click [Read Marks].

*If you start the controller from the Start menu, registration marks can be read by using [Read Marks], regardless the setting in [Mark Auto Scan].

Settings in the [Registration Mark Settings] Screen

In the main screen (➡page 9), click [RM Settings] to open the [Registration Mark Settings] screen. In this screen, you set detailed conditions necessary to read registration marks, including the number and the shape of the mark.

**CAUTION**

To perform a segment area adjustment (➡"Adjustment by Using Registration Marks" on page 26), the direction where the intermediate registrations placed must be the same as the feed direction. So, load the media accordingly. Intermediate registration marks that are in the moving direction of the cutter blade cannot be read.

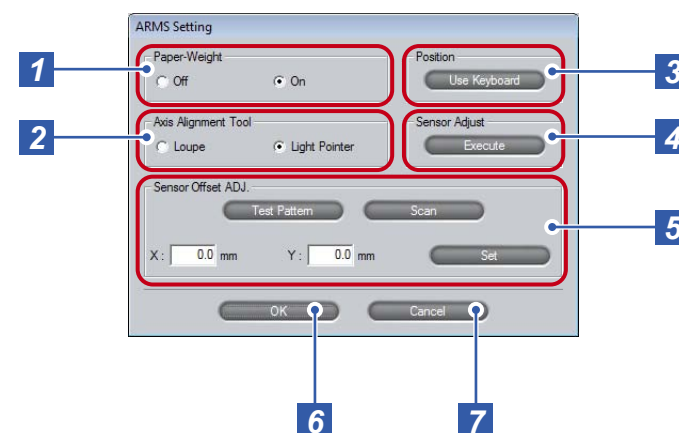
1 Mark Scan Mode	Set the number of registration marks to scan. ➡Adjustment by Using Registration Marks (page 26)	
2 Mark Type	Select the shape of the registration mark.	
3 Step	When [Area] is set in [Mark Scan Mode], specify the distance by which each intermediate registration mark is placed.	
	Setting range	100.0 mm to 10000.0 mm
4 Length	Specify the length of the registration mark from the corner to the end.	
	Setting range	5.0 mm to 20.0 mm
5 Thickness	Specify the thickness of the registration mark.	
	Setting range	0.3 mm to 1.0 mm
6 OK	Saves the settings and closes the [Registration Mark Settings] screen.	
7 Cancel	Cancels the settings and closes the [Registration Mark Settings] screen.	

Adjustment by Using Registration Marks

The plotter reads the registration marks to perform alignment of the origin point, adjustment of the vertical distance, and correction of the distortion. Depending on the number of marks, the adjustment method may differ.

Mark Scan Mode	Adjustment to be done
2points	Adjusts the horizontal distance and the tilt. Registration marks at lower left and lower right are read and the distance between these two marks is adjusted so as to be the same distance as you set in the [X] of [Mark Distance] (➡"Registration Marks Setting" on page 24).
3points	Adjusts the vertical and horizontal distance and the tilt. Registration marks at lower left + lower right and lower left + upper left are read and the distances between each pair of the marks are adjusted so as to be the same distances as you set in the [X] and [Y] of [Mark Distance] (➡"Registration Marks Setting" on page 24).
4points	Registration marks at lower left, lower right, upper left, and upper right are read and are adjusted to the registration mark positions calculated from the distances you set in the [X] and [Y] of [Mark Distance] (➡"Registration Marks Setting" on page 24).
Area (segment area adjustment)	For a long image, like one whose length in the feed direction is more than 2 m, corrects the distortion produced during the printing process. By using the intermediate registration marks as boundaries, the image is divided in the feed direction into several areas and 4points adjustment is performed.

Settings in the [ARMS Setting] Screen



In the [ARMS Setting] screen, you set detailed conditions to use the ARMS functions.

In the main screen (➡page 9), click  [ARMS] to open the [ARMS Setting] screen.

1 Paper-Weight	Set whether to hold down the media with the paper-weight when the sensor reads the registration marks.	
	Off	The paper-weight will not be used.
	On	The paper-weight will be used.
2 Axis Alignment Tool	Set the tool that is used for manual axis alignment. Select from [Loupe] and [Light Pointer]. ➡Axis Alignment (page 27)	
3 Position (Use Keyboard)	Click this key and then use the keyboard to move the tool to the position at which the you want to cut the test pattern.	
	Up/down/left/right	Press one of the [←↑↓→] keys on the keyboard.
	High-speed movement	Press the [Ctrl] key and one of the [←↑↓→] keys on the keyboard at the same time.
	Low-speed movement	Press the [Shift] key and one of the [←↑↓→] keys on the keyboard at the same time.
	Skew	Press the up/down arrow key and the left/right arrow key at the same time. For example, [←] and [↑] or [↓] and [→].

4	Sensor Adjust	Automatically adjusts the scanning level of the sensor that scans registration marks. Click [Execute] to start the automatic adjustment. ➡Sensor Adjust (page 27)
5	Sensor Offset ADJ.	Adjust the position of the sensor that scans registration marks. ➡Sensor Offset ADJ. (page 27)
6	OK	Saves the settings and closes the [ARMS Setting] screen.
7	Cancel	Cancels the settings and closes the [ARMS Setting] screen.

Axis Alignment

In Axis Alignment, you adjust the tilt of the Axis by using alignment marks (such as grits and registration marks) for 2points, 3points, or 4points as references. In addition you can adjust the distance by entering the distance between each points. Use the loupe or the light pointer for the tool to align the tool to the position of each point. Use media that has drawings (alignment marks such as grits and registration marks) required to determine the X/Y axes and the origin point.

For more information on the axis alignment procedure, see Chapter 6 "Manual Position Adjust" in User's Manual.

Sensor Adjust

Scan level (threshold value between the media background color and registration mark) of the sensor scanning the registration mark is automatically adjusted. Sensor is adjusted to scan the registration mark written in black lines on white background. Readjust the scan level of the sensor depending on the color and gloss of the media. If it is hard to adjust the level automatically due to media characteristics, adjust the scan level of the sensor manually. When you want to revert the sensor level back to the default, use the control panel of the plotter. For more information on the sensor level adjustment procedure, see Chapter 5 "ARMS (Advanced Registration Mark Sensing System)" in User's Manual.

Sensor Offset ADJ.

Sensor to scan the registration mark is positioned away from the tip of the tool (pen tip). Therefore, it is necessary to adjust the coordinate values of the scanned registration mark so it will match with the cutting position. Specify how much the cross shape, which was plotted after scanning, should be moved based on the cross shape to be scanned.

•Plotting Registration Mark for Adjustment

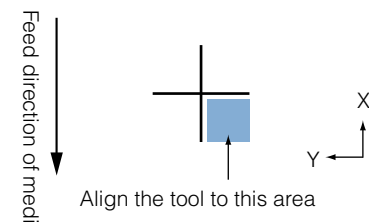
When Registration Mark is not plotted on the media, first plot the Registration Mark. Then proceed to the step of "Detect the Registration Mark for Adjustment, and enter the Value".

1. Load white media.
2. Set the water-based fiber-tip pen on the tool holder.
3. Open the [ARMS Setting] screen of controller.
4. Click [Position (use Keyboard)], and use the Keyboard of PC to move the Tool to the position at which you want to cut the Registration Mark (test pattern).
5. Click [Test Pattern] of [Sensor Offset ADJ.], and plot the Adjustment Registration Mark.

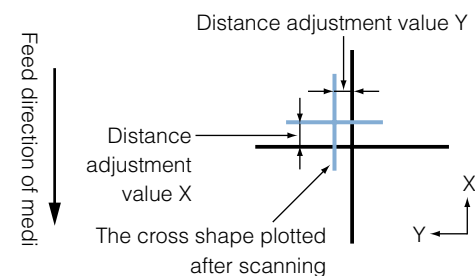
•Detect the Registration Mark for Adjustment, and enter the Value

When the Registration Mark is already cut on the Media or when the Media where Adjustment Registration Mark is cut is used using the [Test Pattern], take the following procedures.

1. Load the media with adjustment registration mark in the plotter.
2. Open [ARMS Setting] screen of controller.
3. Click [Position (use Keyboard)], and use the Keyboard of PC to move the Tool to the area at which you want to start scanning the Registration Mark.

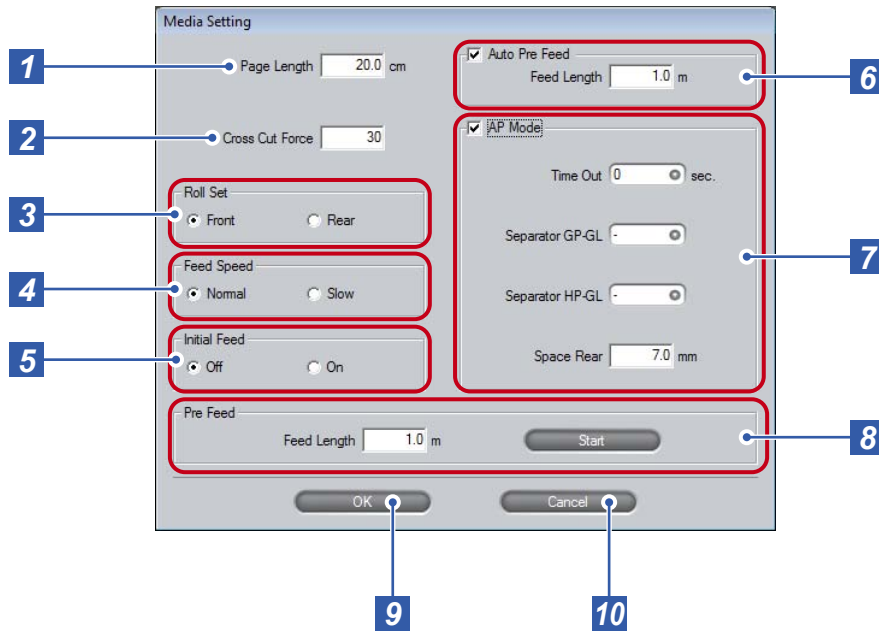


4. Click [Scan] of [Sensor Offset ADJ.] to scan the Registration Mark for Adjustment, and plot the Registration Mark for comparison.



5. Using the scanned Registration Mark for Adjustment, measure the distance of how much the comparison registration mark needs to be moved so both will overlap, and record the value. As an example, in the figure above, it needs to move in negative directions for both X and Y directions, so both of the adjustment values will be negative values.
6. Enter the values, which were measured in the above 5, into each X/Y as the adjustment value. It is able to set for both X and Y in the range from -3.0mm to +3.0mm.

8. Media Setting [MEDIA]



In the main screen (▶page 9), click [MEDIA] to open the [Media Setting] screen.
In the [Media Setting] screen, you set values regarding to media.



CAUTION

Be sure to specify a longer length in [Page Length] than the plotting data. Plotting is performed only within the length specified by the [Page Length].

1	Page Length	Set the length of 1 page when using the roll media.	
		Setting range	20.0 to 5000.0cm
2	Cross Cut Force	Specify the cutting force for cross cut. Set a smaller value for thin media and a larger value for thick media.	
		Setting range	1 ~ 48
3	Roll Set	Specify the direction in which roll media has been loaded: from the front or rear of the plotter. Select either [Front] or [Rear].	
4	Feed Speed	Specify the feed speed for the Pre Feed. Normally use [Normal]. Set this setting to [Slow] when heavy or slippery media is used. ▶What is Pre Feed (page 29)	
5	Initial Feed	Specify whether pre feed should be performed for the length specified by [Page Length] when the set lever is raised after the media is loaded. ▶What is Pre Feed (page 29)	
		On	Pre feed is performed.
		Off	Pre feed is not performed.
6	Auto Pre Feed	When checked, pre feed is performed automatically when the plotting data is received. The pre feed is performed for the length specified by [Feed Length]. ▶What is Pre Feed (page 29)	
		Setting range	1.0 to 50.0 m
7	AP Mode	When checked, the mode for AP (apparel industry) becomes available. ▶AP Mode (page 29)	
8	Pre Feed	Pre feed can be manually started. Check [Pre Feed], specify the feed length, and click [Start] to perform pre feed once. ▶What is Pre Feed (page 29)	
		Setting range	1.0 to 50.0 m
9	OK	Saves the settings and closes the [Media Setting] screen.	
10	Cancel	Cancels the settings and closes the [Media Setting] screen.	

What is Pre Feed

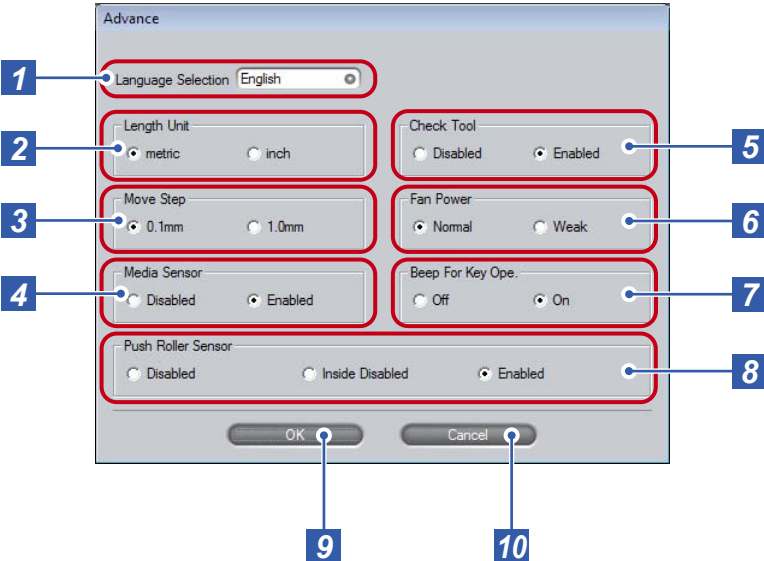
This function prevents the loaded media from slipping by advancing the media by the specified length and then drawing back to imprint grit roller marks on the media. It also ensures stable media feed operations by acclimating long media to the operating environment. For roll media, the amount to use for plotting must be pulled out beforehand. You can let the plotter do this work.

AP Mode

This function is used to connect to a CAD for AP (apparel industry).

Time Out	The media is fed when data is not received within the specified time after finishing the plotting. Select a value from 0, 1, 2, 3, 5, 10, 20, 30, 60, and 120 seconds. When [0] is set, the media will not be fed.
Separator GP-GL	Set the command to be used as the separator of data. One sheet is plotted every time the data is separated. Select a value from - (no separator is set), F, J0, H, and FS.
Separator HP-GL	Set the command to be used as the separator of data. One sheet is plotted every time the data is separated. Select a value from - (no separator is set), AF, AH, PG, NR, SP, IP, SC, IW, PS, DF, and IN.
Space Rear	Specify the space for between the position where plotting data is terminated and the position for cutting off the media. The possible values are from 7.0 to 30.0 mm.

9. Advance [ADV.]



In the main screen (➡page 9), click [ADV.] to open the [Advance] screen.
In the [Advance] screen, you make environment settings for the plotter.



CAUTION

When [Push Roller Sensor] is set to [Disabled], cross cutting cannot be done.

1	Language Selection	Select the language in which menus are shown on the LCD screen in the control panel of the plotter. Select from [English], [Japanese], [Deutsch], [Francais], [Italiano], [Espanol], and [Portugues]. This does not change the display language of the controller.	
2	Length Unit	Select the length unit that is shown on the LCD screen in the control panel of the plotter. Select from [metric] and [inch]. This does not change the display unit of the controller.	
3	Move Step	Set the movement distance of the carriage and the media when one of the [Position] keys (●●●●) is pressed. Select from [0.1mm] and [1.0mm].	
4	Media Sensor	Disabled	The sensor will not be used.
		Enabled	The sensor will be used.
5	Check Tool ^{*1}	Disabled	The check will not be performed. Be sure to attach Tool2 on the station before turning the power on.
		Enabled	The check will be performed.
6	Fan Power	Set the air volume of the fan that sucks the media. Normally, select [Normal]. For thin media, select [Weak].	
7	Beep For Key Ope.	Specify whether to beep when a key on the control panel of the plotter is pressed.	
		Off	Beep will not be generated.
		On	Beep will be generated.
8	Push Roller Sensor	Specify whether to use the push roller sensors that detect the width of the media. Normally, select [Enabled]. (➡Chapter 10 "Settings Regarding Operating Environment" in User's Manual)	
		Disabled	The push roller sensors will not be used.
		Inside Disabled ^{*2}	The push roller sensors other than ones at the edges will not be used.
		Enabled	The push roller sensors will be used.
9	OK	Saves the settings and closes the [Advance] screen.	
10	Cancel	Cancels the settings and closes the [Advance] screen.	

^{*1}: Available only when you use a plotter with the 2 pen option.

^{*2}: When more than three push rollers are used, the roller sensor(s) in midway will be disabled.

10. Option Settings

The image shows the 'Option' settings screen with the following components and callouts:

- 1**: Driver selection dropdown menu, currently showing 'Select: Graphtec FC8000'.
- 2**: Firmware version, showing 'FC8000-75, V1.00'.
- 3**: Unit selection, with radio buttons for 'mm' (selected) and 'inch'.
- 4**: Media List section, containing a 'Restore to default' button and an 'Execute' button.
- 5**: Plotter setting section, containing 'Import...' and 'Export...' buttons.
- 6**: Error Information section, containing an 'Execute' button.
- 7**: Condition Information section, containing an 'Execute' button.
- 8**: User Name section, containing input fields for 'User1' (with 'User name1' text) and 'User2' (with 'User name2' text), and an 'Upload' button.
- 9**: OK button at the bottom left.
- 10**: Cancel button at the bottom right.

In the main screen (▶page 9), click [Option] to open the [Option] screen.

In the [Option] screen, you select the plotter to be controlled by the controller, set the unit to be used in the controller, initialize the media list, and make other settings. You can also retrieve information



CAUTION

- On Windows Vista, the media list is saved for each logged-on user. If you want to use the same media list as before, log on as the same user.
- On Windows 2000/XP, you can execute [Restore to default] under [Media List] only when you are logged on as administrator. When logging on as the users other than those, a message appears and it is unable to return to the media list of default.

1	Driver (Select)	Specify the plotter for which you want to make settings in the controller. From the [Select] pull-down list, select the driver for the plotter for which you want to make settings.
2	Firmware	Displays the firmware information for the plotter corresponding to the driver that is currently selected.
3	Unit	Specify the length unit to be used in the controller. Select from [mm] and [inch].
4	Media List (Restore to default)	Restores the media list to the default. Click [Execute], and a message asking if you are sure to restore the media list to the default appears. Click [OK] to restore to the default.
5	Plotter setting	The settings in the following screens are saved to the computer: [Tools Setting], [Area Parameters], [Interface], [ARMS Setting], [Media Setting], [Advance] and the saved settings can be loaded to the controller. ➡ Import/Export Functions in Plotter Setting (page 32)
6	Error Information	Retrieves and displays the error information on the plotter. Click [Execute] to display the error information. Click [Save] in the [Error Information] screen to save the information in text file format to the computer.
7	Condition Information	Retrieves and displays the condition information on the plotter. Click [Execute] to display the condition information. Click [Save] in the [Condition Information] screen to save the information in text file format to the computer.
8	User Name	Specify the user name to be used in the plotter. Enter desired names in [User1] and [User2]. Click [Upload] to set the names in the plotter.
9	OK	Saves the settings and closes the [Option] screen.
10	Cancel	Cancels the settings and closes the [Option] screen.

Import/Export Functions in Plotter Setting

By using these functions, you can save settings that are set in the controller to any location on your computer or load the settings that have been saved to your computer. The extension of the files that can be imported or exported is ".GDS".

Export	1. Click [Export]. 2. Enter the file name in the [Save As] screen and specify the location to which you save the settings. 3. Click [Save] to save the settings.
Import	1. Click [Import]. 2. Select the file to load in the [Open] screen. 3. Click [Open] to load the settings.

11. Troubleshooting

List of Error Messages

The following list describes error messages that may appear in the controller and actions to be taken. If a problem cannot be solved, contact "Customer Service Contact".

Error message	Action	Reference
"Communication with the plotter could not be established. Please confirm that the plotter is connected correctly and that it has been turned on."	Make sure that the cable is connected properly. Make sure that the plotter is powered on.	➔ Setup Manual ➔ Chapter 1 "Assembling and Connection" and Chapter 2 "Preparing to Cut" in User's Manual
"Cannot communicate with the plotter. Turn off the plotter's power switch, and then turn it on again."	Turn off the plotter's power switch, and then turn it on again.	➔ Chapter 2 "Preparing to Cut" in User's Manual
"GITKPRNP.DLL could not be found, and so the Cutting Plotter Controller for FC8000 could not be started. Please reboot your computer or re-install the Cutting Plotter Controller for FC8000."	Reboot your computer. If the problem still exists, uninstall and then re-install the controller.	➔ "Uninstalling the Controller" on page 33 ➔ Setup Manual
"The GITKPRNP.DLL functions could not be found, and so the Cutting Plotter Controller for FC8000 could not be started. Please reboot your computer or re-install the Cutting Plotter Controller for FC8000."	Reboot your computer. If the problem still exists, uninstall and then re-install the controller.	➔ "Uninstalling the Controller" on page 33 ➔ Setup Manual
"Registration mark reading has failed. Confirm that the Mark Distance set is correct. Confirm that the Mark Type set is correct."	Check the settings in [Registration Marks]. Make sure that the media is loaded properly.	➔ 7. ARMS Setting [ARMS] (page 24) ➔ Chapter 2 "Preparing to Cut" in User's Manual
"Did not read the registration marks. The print and cut positions may not line up. Cut anyway?"	Read the registration marks before cutting when you cut printed material. If you are not using registration marks, set [Registration Marks] to off.	➔ 7. ARMS Setting [ARMS] (page 24) ➔ Chapter 5 "ARMS (Advanced Registration Mark Sensing System)" in User's Manual

Uninstalling the Controller

Try to reboot your computer when the controller does not work properly. If it the problem persists, uninstall it by following the procedure below and re-install it properly. For more information on how to install the controller, see "Setup Manual".

1. Stop the controller if it is running.
2. From the Start menu, open the Control Panel. (In Windows 2000, click [Start], [Settings], and then [Control Panel].)
3. Click [Program].
(If you use the Classic view to see the Control Panel on Windows Vista or if you use Windows 2000/XP, skip this step.)
4. Click [Programs and Features] (on Windows XP, [Add or Remove Programs]; Windows 2000, [Add/Remove Programs]).
5. Select [Cutting Plotter Controller for FC8000] and click [Uninstall] (on Windows XP, [Remove]; Windows 2000, [Change/Remove]).
6. Complete the uninstall by following the instructions on the screen.

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● Information in this document is subject to change without notice.

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