

Full Cutter Set-up Function Specifications

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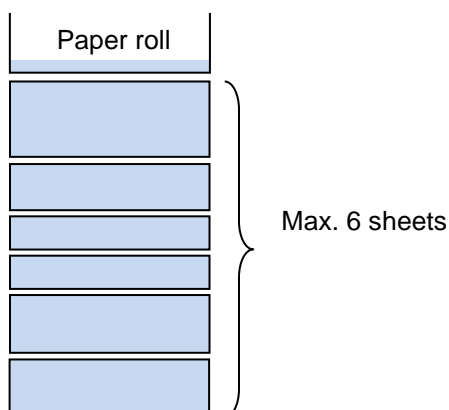
If the contents of this sample program are used on your system, there is no guarantee of their operation. Further, this company shall not be held responsible for any damages, direct or indirect, caused through use of the sample program.

1. Outline of the Full Cutter Set-up function

The Full Cutter Set-up function allows print paper to be cut to the desired size.

The cuts can be designated on a per-sheet basis 2 inches or higher, at 0.1 inch increments, and a print paper can be cut into a maximum of 6 sheets.

<Output Image>



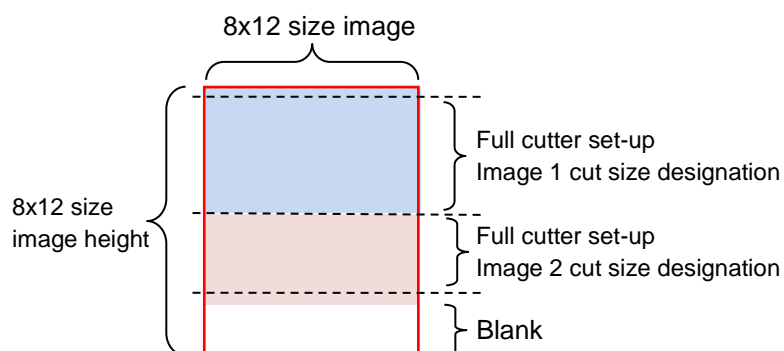
Supplementary information

This is a detailed description of the Full Cutter Setup using 8x12-size as an example.

■Basic concept

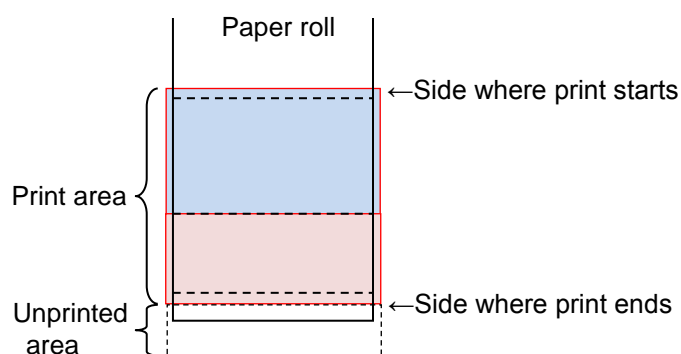
Image layout

Set the image layout in the 8x12 area according to the designated cut size.



Printing

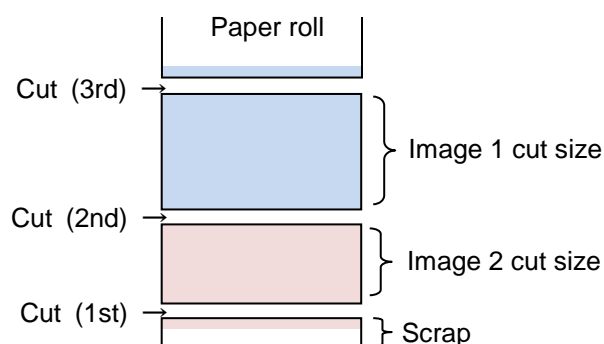
Of the 8x12 size area, only the total length of the designated cut sizes is printed.



Cutting

After cutting off the scrap, the designated print size sheets will be fed out.

A Blank is not printed, so no unnecessary paper is fed out.



2. Set of the Full Cutter Set-up function

■Reference of Full Cutter Set-up API

[Format] BOOL SetFullCutterSetup(long lPortNum, long lSize1, long lSize2, long lSize3,
long lSize4, long lSize5, long lSize6);

[Return]

lPortNum:	Port number	
lSize1:	Image1 cut size	(setting value:0, 20 -)
lSize2:	Image2 cut size	(setting value:0, 20 -)
lSize3:	Image3 cut size	(setting value:0, 20 -)
lSize4:	Image4 cut size	(setting value:0, 20 -)
lSize5:	Image5 cut size	(setting value:0, 20 -)
lSize6:	Image6 cut size	(setting value:0, 20)

[Return]

Successful:	True
Failure:	False

[Explanation]

With the media sizes shown in the table below, it will cut to the designated sizes to make from 1 to the corresponding maximum cutting sheet number.
The cut size can be set in 0.1-inch increments in the 2 inches to the maximum size range. The total size should not exceed the maximum size.

When setting the image1 to '0' , the printer will be the normal size print operation.
And ignore the image 2-6 arguments.

When the cutting sheet number is 1 sheet , please set '0' to the cut size of the image 2 - 6.
When the cutting sheet number is 2 sheets, please set '0' to the cut size of the image 3- 6.
When the cutting sheet number is 3 sheet , please set '0' to the cut size of the image 4 - 6.
When the cutting sheet number is 4 sheets, please set '0' to the cut size of the image 5- 6.
When the cutting sheet number is 5 sheets, please set '0' to the cut size of the image 6.

If you set the out-of-range cut size, it is returned "FALSE".

■ Media size and cut size setting range

Media size	Maximum cutting sheet number	Maximum size	No. of images	Cut size setting range
8x10	5 sheets	10 inches	1	20~100
			2	20~80
			3	20~60
			4	20~40
			5	20
8x12	6 sheets	12 inches	1	20~120
			2	20~100
			3	20~80
			4	20~60
			5	20~40
A4	5 sheets	11.7 inches	6	20
			1	20~117
			2	20~97
			3	20~77
			4	20~57
			5	20~37

[Attention]

Send this command before the start print command is sent.

This command is only valid once for each image. The printer will return to the normal size print operation after each image is printed.

If the total cut size set using this command is larger than the image size sent to the printer, this command is disabled and printing is done with the media size (normal size) sent to the printer.

When this command used, the following specification is disabled.

- two inches cut setting of the printer driver
- cutter control command

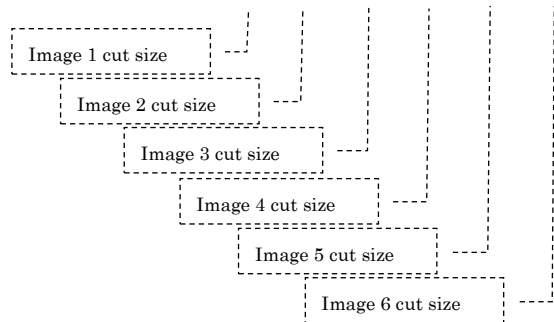
If both the full cutter set-up extended command and this command are used together, the last setting used will be given priority.

Usage examples (Normal cases)

This is an example of the output using API in the following parameters (shown using Visual C).

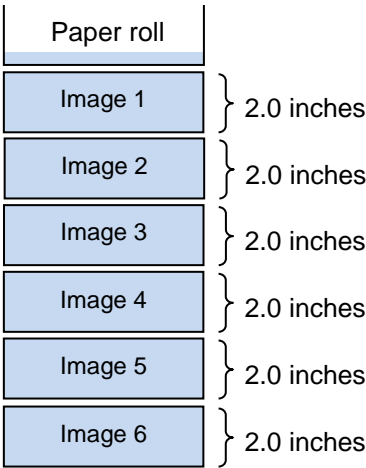
<Example 1>

SetFullCutterSetup(lPortNum, 20, 20, 20, 20, 20, 20);



<Output result 1>

Images 1-6 are all cut as 2 inches, and 6 prints are output.

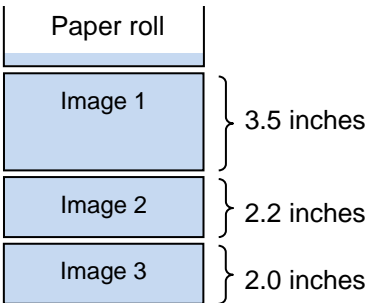


< Example 2>

SetFullCutterSetup(lPortNum, 35, 22, 20, 0);

< Output result 2>

This outputs one 3.5 inch, one 2.2 inch, and one 2.0 inch print, for a total of three prints.

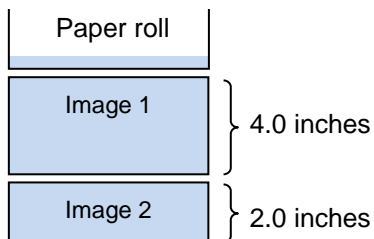


< Example 3>

```
SetFullCutterSetup( lPortNum, 40, 20, 0, 0 );
```

< Output result 3>

This outputs one 4.0 inch and one 2.0 inch print, for a total of two prints.



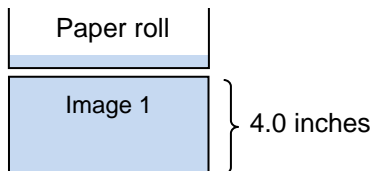
< Example 4>

```
SetFullCutterSetup( lPortNum, 40, 0, 20, 20 );
```

< Output result 4>

This outputs one 4.0 inch print.

Image 2 cut size is designated as 0 (cut quantity 1), so any following cut sizes are disregarded.



Usage examples (Abnormal cases)

<Example 1>

```
SetFullCutterSetup( lPortNum, 20, 30, 40, 10 );
```

- Image 4 is not within permitted value parameters, so it becomes an error, and the printing will be in the paper size sent to the printer (normal size).

<Example 2>

```
SetFullCutterSetup( lPortNum, 35, 20, 0, 0 );           // Setting 1  
SetFullCutterSetup( lPortNum, 40, 30, 20, 10 );         // Setting 2
```

- If SetFullCutterSetup API is used multiple times, the latest setting will be valid. However, if the latest SetFullCutterSetup API request results in an error, the setting change will not be accepted, so the previous setting will be valid.
In the example above, setting 1 will be valid.

■Setting Conditions for Full Cutter Set-up function

This explains the setting conditions using 8x12-size as an example.

- With the following conditions, a maximum of 6 sheets can be cut.
 The total of cut size is less than 12 inches (120).
 Any area less than the total of 12 inches will be processed unprinted.
 Settings with a total size exceeding 12 inches will be invalid, and regular (8x12) size printing will be performed.
 If the cut size setting of any 1 sheet is less than 2 inches, it will result in an error,

•List of Setting Value Combinations

	Cutting sheet number:1	Cutting sheet number:2	Cutting sheet number:3
Image1 cut size (X ₁)	20 ~ 120	20 ~ 100	20 ~ 80
Image1 cut size (X ₂)	0	20 ~ (120-X ₁)	20 ~ (100-X ₁)
Image1 cut size (X ₃)	0	0	20 ~ (120-X ₁ -X ₂)
Image1 cut size (X ₄)	0	0	0
Image1 cut size (X ₅)	0	0	0
Image1 cut size (X ₆)	0	0	0

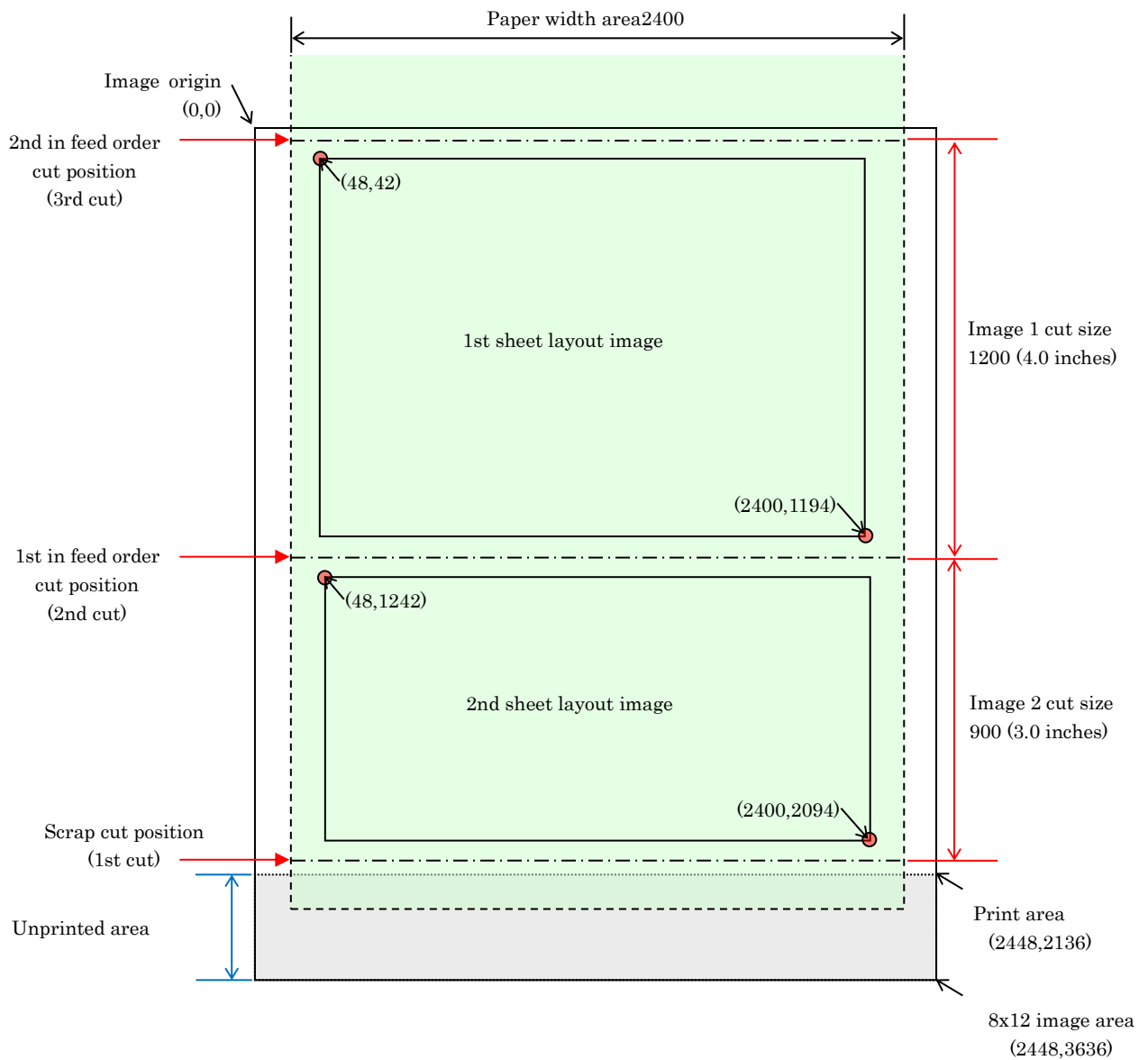
	Cutting sheet number:4	Cutting sheet number:5	Cutting sheet number:6
Image1 cut size (X ₁)	20 ~ 60	20 ~ 40	20
Image1 cut size (X ₂)	20 ~ (80-X ₁)	20 ~ (60-X ₁)	20
Image1 cut size (X ₃)	20 ~ (100-X ₁ -X ₂)	20 ~ (80-X ₁ -X ₂)	20
Image1 cut size (X ₄)	20 ~ (120-X ₁ -X ₂ -X ₃)	20 ~ (100-X ₁ -X ₂ -X ₃)	20
Image1 cut size (X ₅)	0	20 ~ (120-X ₁ -X ₂ -X ₃ -X ₄)	20
Image1 cut size (X ₆)	0	0	20

■Image layout example (8x12 size paper)

Confidential

Resolution setting: 300x300dpi

Full cutter set-up setting value: SetFullCutterSetup(lPortNum, 40, 30, 0, 0)
(for 2 sheets: 4.0 inches and 3.0 inches)



•Typical value of image data print area (Y coordinate, unit: pixels)

Total cut size	Resolution 300dpi	Resolution 600dpi
2.0 inch	0~636	0~1272
3.0 inch	0~936	0~1872
4.0 inch	0~1236	0~2472
5.0 inch	0~1536	0~3072
6.0 inch	0~1836	0~3672
7.0 inch	0~2136	0~4272
8.0 inch	0~2436	0~4872
9.0 inch	0~2736	0~5472
10.0 inch	0~3036	0~6072
11.0 inch	0~3336	0~6672
12.0 inch	0~3636	0~7272
The value of print area per 0.1 inch	30	60

•Typical value of recommended layout coordinates for the image (unit: pixels)

Resolution setting		300x300dpi	300x600dpi
Layout image Top left coordinates (X, Y)	Image 1	48, 42	48, 84
	Image 2 (Image 1 cut size X_1)	48, $(42+300 \cdot X_1)$	48, $(42+600 \cdot X_1)$
	Image 3 (Image 1 and 2 total combined cut size X_2)	48, $(42+300 \cdot X_2)$	48, $(42+600 \cdot X_2)$
	Image 4 (Image 1 to 3 total combined cut size X_3)	48, $(42+300 \cdot X_3)$	48, $(42+600 \cdot X_3)$
	Image 5 (Image 1 to 4 total combined cut size X_4)	48, $(42+300 \cdot X_4)$	48, $(42+600 \cdot X_4)$
	Image 6	48, 3042	48, 6084
Layout image Bottom right coordinates (X, Y)	Image 1 (Image 1 cut size X_1)	2400, $(300 \cdot X_1 - 6)$	2400, $(600 \cdot X_1 - 12)$
	Image 2 (Image 1 and 2 total combined cut size X_2)	2400, $(300 \cdot X_2 - 6)$	2400, $(600 \cdot X_2 - 12)$
	Image 3 (Image 1 to 3 total combined cut size X_3)	2400, $(300 \cdot X_3 - 6)$	2400, $(600 \cdot X_3 - 12)$
	Image 4 (Image 1 to 4 total combined cut size X_4)	2400, $(300 \cdot X_4 - 6)$	2400, $(600 \cdot X_4 - 12)$
	Image 5 (Image 1 to 5 total combined cut size X_5)	2400, $(300 \cdot X_5 - 6)$	2400, $(600 \cdot X_5 - 12)$
	Image 6	2400, 3594	2400, 7188
The value of Y coordinate per 0.1 inch		30	60

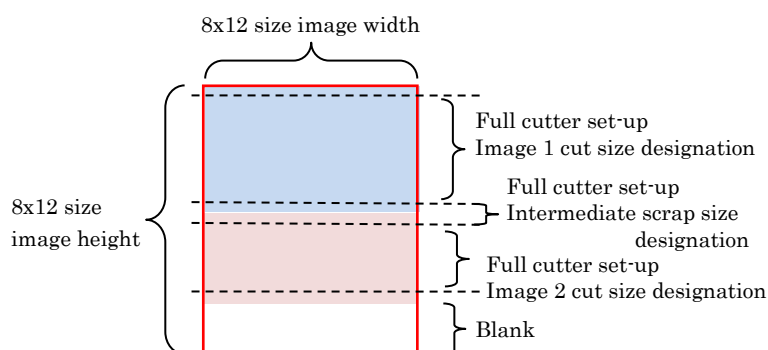
3. About the Full Cutter Set-up Extended function

In Full Cutter Set-up, a Full Cutter Set-up Extended function has been added, that allows the cutting of designated intermediate scrap.

When intermediate scrap is designated using the Full Cutter Set-up Expansion function:

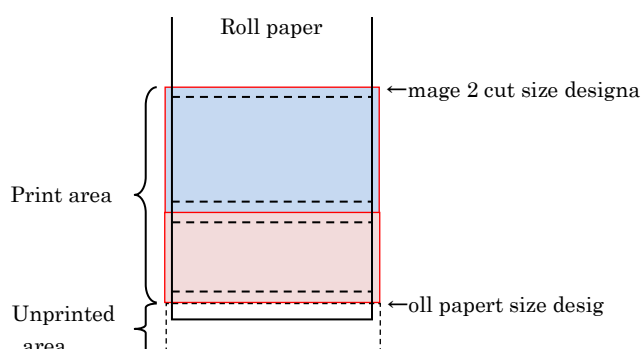
Image layout

Set the image layout in the 8x12 area according to the designated cut size.



Printing

Of the 8x12 size area, only the total length of the designated cut sizes is printed.

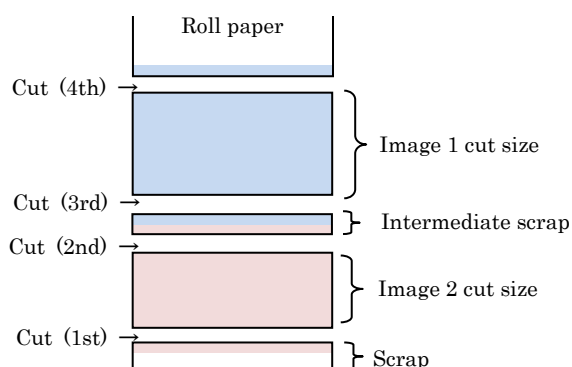


Cutting

After cutting off the scrap, the designated print size sheet will be fed out (Image 2).

The intermediate scrap between images 1 and 2 is cut off, and the next print size sheet will be fed out (Image 1).

A Blank is not printed, so no unnecessary paper is fed out.



4. Set of the Full Cutter Set-up Extended function

■Reference of Full Cutter Extended Set-up API

[Format]	BOOL	SetFullCutterSetUpEX(long lPortNum, long lCutSize1, long lCutSize2, long lCutSize3, long lCutSize4, long lCutSize5, long lCutSize6, long lDustSize);	
[Argument]	lPortNum:	Port number	
	lCutSize1:	Image1 cut size	Setting value: 0, 20-
	lCutSize2:	Image2 cut size	Setting value: 0, 20-
	lCutSize3:	Image3 cut size	Setting value: 0, 20-
	lCutSize4:	Image4 cut size	Setting value: 0, 20-
	lCutSize5:	Image5 cut size	Setting value: 0, 20-
	lCutSize6:	Image6 cut size	Setting value: 0, 20
	DustSize:	Intermediate scrap cut size	Setting value: 0, 12-22

[Return]	Successful:	True
	Failure:	False

[Explanation]	Full Cutter Set-up Extended command that makes it possible to set the size of an intermediate scrap cut.		
	The scrap size can be set in 0.01-inch increments in the 0.12 to 0.22 inches range.		
	When setting the intermediate scrap cut size to a valid value other than 0, pay attention that the total cut size calculated with the formula below does not exceed the media maximum size.		

$$\text{Total cut size} = (\text{Total of each image cut size}) + ((\text{Intermediate scrap cut size}/10) \times (\text{Number of images}-1))$$

Example: The following formula is obtained when the media size is 8x12 inches (120), there are 5 images of 2 inches each (setting value = 20), and the intermediate scrap is 0.22 inches (setting value = 22).

$$(20+20+20+20+20+0)+((22/10)\times(5-1)) = 108.8 \leq 120$$

When intermediate scrap cut size is set to 0, refer to the table in Full Cutter Set-up for the media size and cut size setting ranges for each image.

If values outside the setting range above are set for the cut sizes, "FALSE" is returned.

[Attention]	If the total cut size set with this command is larger than the image size sent to the printer, this command will become invalid, and the printing will be in the paper size sent to the printer (normal size).		
	When this command used, the following specification is disabled.		
	<ul style="list-style-type: none"> • two inches cut setting of the printer driver • cutter control command 		
	If both the full cutter set-up command and this command are used together, the last setting used will be given priority.		

5. Sample Program

This is a VB.NET Full Cutter Set-up application. With this sample program sets parameters to Full Cutter Set-up function. It has been set by using the "setFullCutterSetup0" and "setFullCutterSetupEX0" in Status API.

In order to use this sample program, please make the following changes to conform to your operating environment.

■Printer Name

Change the "Printer Name" in Form1_Load0.

The initial setting is "PrinterName = "DP-DS820", so you should set the name of the printer you have installed.

For the printer name, refer to "Printer and Fax" on te computer.

■32/64bit OS selection

If the OS is 64bit, you should attach "#Const x64 = True" to the beginning of DS820Stat.vb.

The initial setting is for 32bit, and is set as "#Const x64 = False".

FullCutterSetup Sample

SetFullCutterSetup Exsample 1

Image1 Cut Size	Image2 Cut Size	Image3 Cut Size	Image4 Cut Size	Image5 Cut Size	Image6 Cut Size
20	20	20	20	20	20

Set

SetFullCutterSetup Exsample 2

Image1 Cut Size	Image2 Cut Size	Image3 Cut Size	Image4 Cut Size	Image5 Cut Size	Image6 Cut Size
30	25	20	20	20	0

Set

SetFullCutterSetup Free Setting

Image1 Cut Size	Image2 Cut Size	Image3 Cut Size	Image4 Cut Size	Image5 Cut Size	Image6 Cut Size
27	22	31	20	20	0

Set

SetFullCutterSetupEX Free Setting

Image1 Cut Size	Image2 Cut Size	Image3 Cut Size	Image4 Cut Size	Image5 Cut Size	Image6 Cut Size	Intermediate Scrap Size
25	23	22	20	20	0	15

Set

Print