

PRINTER DRIVER GUIDE

(For Macintosh® CP-D90 series)

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The various software packages mentioned in this manual are the registered trademarks of their respective companies.

Refer to the following web site to check the latest version of the printer driver.

http://www.mitsubishielectric.co.jp/ldg/ja/products/visual/lineup/printer/photo/download_01_english.html

You can not use different version of the driver at the same time.

When the driver has already installed, uninstall it and then install this driver.

System requirements

Computer : PowerMacintosh G4, G5, PowerBookG4, iMac, Mac mini,
MacBook, MacBook Pro, Mac Pro, MacBook Air

Main storage memory : 512 Mbytes or more

Hard disk : Empty capacity 512 Mbytes or more

Operating system : 10.6, 10.7, 10.8, 10.9, 10.10, 10.11

USB*1 cable : Be sure to use a cable 2m or shorter.

* Use the printer driver in an environment that your operating system works properly.

*1: CP-D90 series printer supports USB 2.0 (Hi-Speed USB) interface.

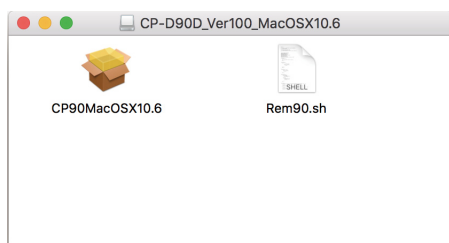
Installation

Administrator authority is required to install this printer driver.

When the printer driver of older version has been installed, uninstall it before installing this driver.

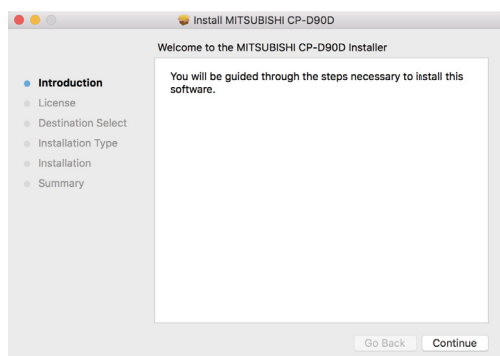
* Although the screen of the display is an installation screen of Mac OS X 10.11, operating procedures are the same as any other Mac OS X.

- 1) Start your Macintosh.
- 2) Double-click on "CP90MacOSX10.6" of the folder. (Fig. 1)

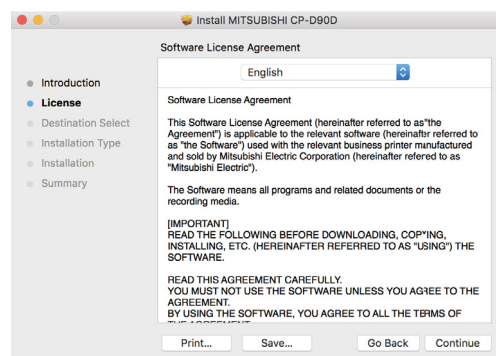


<Fig. 1>

- 3) Click "Continue" button in the "Install MITSUBISHI CP-D90D." (Fig. 2)
- 4) Read the Software License Agreement and click "Continue" button. (Fig. 3)

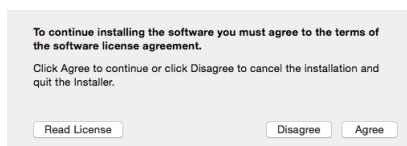


<Fig. 2>

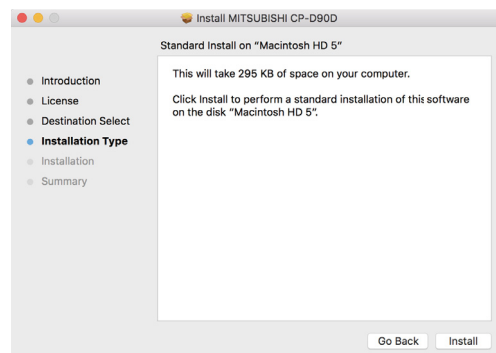


<Fig. 3>

- 5) When you agree with the terms and conditions of the Agreement, click "Agree." (Fig. 4)
- 6) Click "Install" button. (Fig. 5)

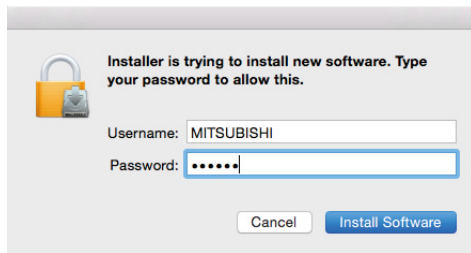


<Fig. 4>



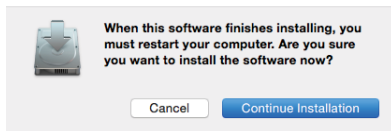
<Fig. 5>

- 7) Enter a username and password, and click “Install Software” button. (Fig. 6)
 (“Install Software” button: “OK” button in Mac OS X 10.6)

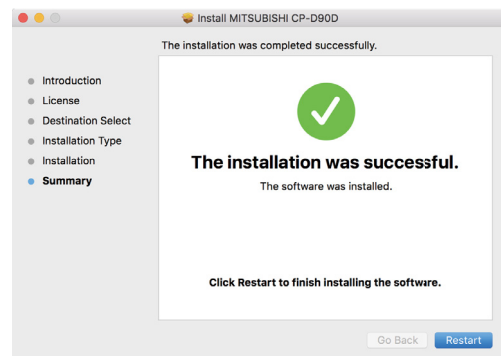


<Fig. 6>

- 8) Click “Continue Installation.” (Fig. 7)
 9) Click “Restart” to restart the personal computer. (Fig. 8)

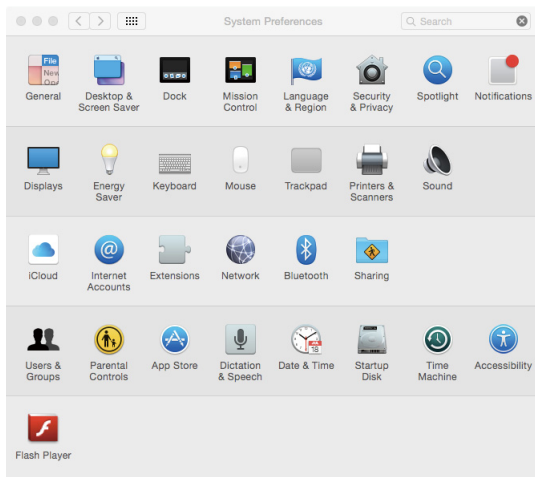


<Fig. 7>

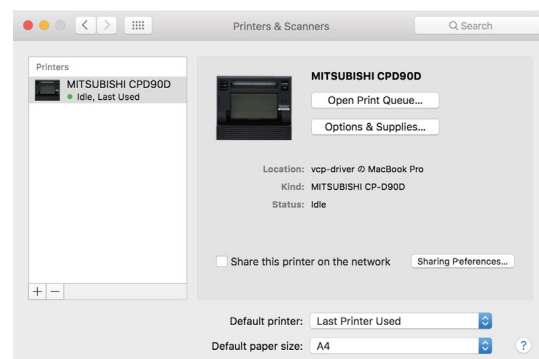


<Fig. 8>

- 10) Turn on the printer and connect it with the personal computer.
 11) Click “System Preferences” to display “System Preferences” screen. (Fig. 9)
 12) Click “Printers & Scanners” on “System Preferences screen.”
 The installed printer is automatically added to the “Printers.” (Fig. 10)
 (“Printers & Scanners”: “Print & Fax” in Mac OS X 10.6 and “Print & Scan” in Mac OS X 10.7 and 10.8)
 * This printer is added in the name of “MITSUBISHI CPD90D.”



<Fig.9>



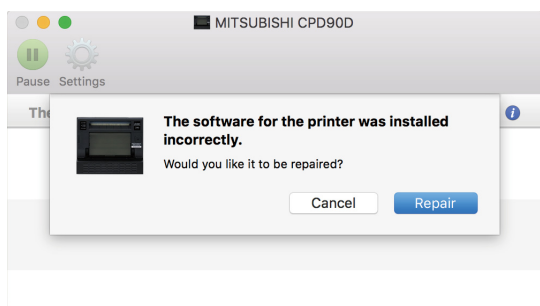
<Fig.10>

<Notes on installation on Mac OS X 10.8, 10.9, 10.10, and 10.11>

The following correspondence may be necessary at the time of installation to Mac OS X 10.8, 10.9, 10.10, and 10.11.

Please install according to follows.

1. When attempting to install the Mac OS X driver downloaded from web site
You may receive a message window that shows “ “CP90MacOSX10.6” can’t be opened because it is from an unidentified developer.” during installation is displayed.
In this case, click “OK” button on this window and follow the steps below.
 - 1) Click the installer package while holding Control key.
 - 2) Click “Open” on the context menu.
 - 3) Click “Open” button on the message window that shows “ “CP90MacOSX10.6” is from an unidentified developer. Are you sure want to open it?.”
Installation will start.
2. About operation after the installation completion of the driver
After the installation completion of the driver, please operate follows.
 - 1) After completion of the driver installation, open “System Preferences” and select “Printers & Scanners.”
 - 2) Select the installed printer in the printer list and click “Open Print Queue...” button.
 (“Printers & Scanners”: “Print & Scan” in Mac OS X 10.8)
 - 3) Click “Repair” button (Fig.11).
The Printer becomes available.



<Fig. 11>

Uninstallation

Operate the following procedures to uninstall the printer driver.

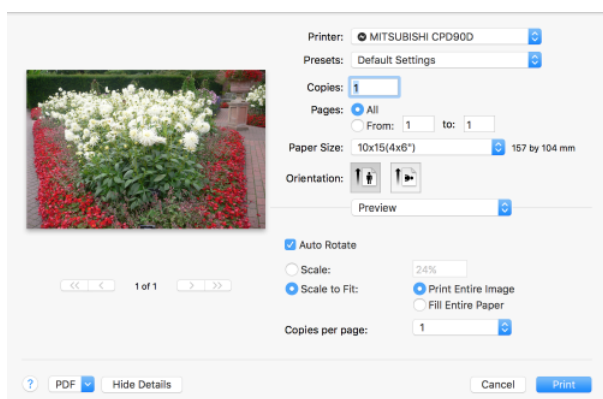
- 1) Start “Terminal” of “Utility” in the “Applications” folder.
- 2) When you do not have administrator authority, obtain it by “su” command.
- 3) Go to the directory where the uninstallation script (Rem90.sh) is stored and execute the script.
./Rem90.sh
- 4) When a password is required, enter the password for the administrator.
- 5) When uninstallation is completed successfully, the following message is displayed.
Uninstallation was completed.
Is a computer rebooted?” (Y/N):
- 6) Enter “Y” or “y” to reboot the computer.
If the computer is not rebooted automatically, exit the ongoing applications and reboot the computer manually.

Function explanation

1. Print Settings

* Although the screen of the display of "Preview" application, the following menu display is the same in the other applications.

1.1. Preview menu



<Fig. 12 Preview menu>

1) Paper Size

The size of paper is selected.

The number of print pixels for each paper size is shown in the table.

Paper size		Print dots	Media type
9x13 (3.5x5")		1076x1550	9x13 (3.5x5")
10x15 (4x6")	10x15 (4x6")	1226x1852	10x15 (4x6"), 15x20 (6x8"), 15x23 (6x9")
	5x15x2 Type 1 (2x6"x2)" ¹		
13x18 (5x7")		1550x2128	13x18 (5x7")
15x20 (6x8")		1852x2428	15x20 (6x8"), 15x23 (6x9")
15x21 (6x8.5")		1852x2568	15x23 (6x9")
15x23 (6x9")		1852x2729	15x23 (6x9")
10x15x2 (4x6"x2)		1852x2488	15x20 (6x8"), 15x23 (6x9")
5x15x2 Type 2 (2x6"x2)" ¹		613x1852	10x15 (4x6"), 15x20 (6x8"), 15x23 (6x9")
5x15 (2x6")		625x1852	10x15 (4x6") ² , 15x20 (6x8") ³ , 15x23 (6x9") ³
15x15 (6x6")		1827x1852	15x20 (6x8"), 15x23 (6x9")
13x13 (5x5")		1527x1550	13x18 (5x7")
9x13 (3.5x5") white border ⁴		934x1382	9x13 (3.5x5")
10x15 (4x6") white border ⁴		1084x1684	10x15 (4x6"), 15x20 (6x8"), 15x23 (6x9")
13x18 (5x7") white border ⁴		1382x1986	13x18 (5x7")
15x20 (6x8") white border ⁴		1684x2286	15x20 (6x8"), 15x23 (6x9")
15x23 (6x9") white border ⁴		1684x2587	15x23 (6x9")

*1: Please refer to item 15 on page 12.

*2: 5x15 (2x6"): If 10x15 (4x6") media type is being used, only one 5x15 (2x6) strip will be printed in a single ink ribbon patch.

*3: 5x15 (2x6"): This selection allows up to 3 different 2x6 strip in a single ink ribbon patch using media type 15x20 (6x8") or 15x23 (6x9"). Please note, if only two 2x6 strips is printed, the rest of the ink will be skipped and not usable.

*4: When any paper size white border is selected, all printed image will have approximately 5 mm white border. The print pixels vary depending on the setting of Paper Size.

2) Orientation

The direction of paper is set.

This is the standard setting function of the operation system.

3) Scale

Enlargement scale is set. (Range : 25 - 400%)

This is the standard setting function of the operation system.

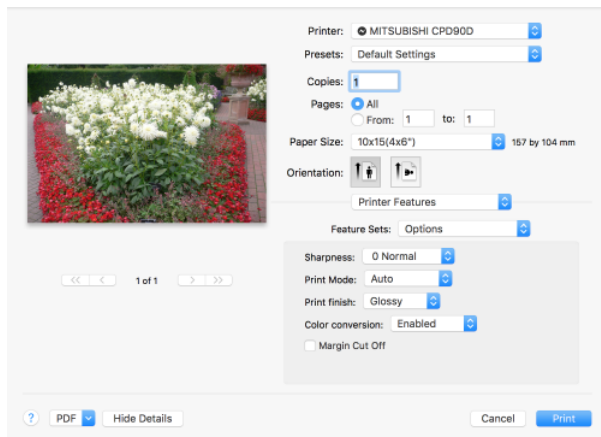
4) Copies

The printer prints the number of printouts which is shown in dialog. (Range: 1 – 9999)

* This is the standard setting function of the operation system.

1.2. Printer Features menu

The following settings can be configured when “Feature Sets” of “Printer Features” is set to “Options” in the Printer Features menu.



<Fig.13 Printer Features menu>

1) Sharpness

none/-3 Soft/-2/-1/0 Normal/1/2/3 Hard

Level of outline correction is changed.

none : Not perform the outline correction.

-3 to 3 : The value is smaller, the outline becomes softer.

The value is larger, the outline becomes sharper.

2) Print Mode

Printing mode is set.

Fine : Prints with high speed.

Note: please refer to footnote *2 on next section (Print Finish).

Auto : Prints with appropriate speed depending on the image.

UltraFine : Prints with high image quality.

3) Print Finish

Set the print surface finish mode.

Glossy : Gloss finish

Matte : Matte finish

<Note on Matte finish>

Whenever a Matte finish is selected, the ink ribbon will not rewind to maintain ribbon performance and image quality on a 15x20 (6x8") or 15x23 (6x9") media type.

Also the ink ribbon will not rewind after a Matte finish is printed regardless if the next print job is Glossy.

With 15x20 (6x8") or 15x23 (6x9") media and performing Matte finish, it is recommended to create even number of jobs to use the whole ink ribbon patch.

The table below illustrates as examples how the ink ribbon is used with Matte finish based on a combination of paper size and number of 10x15 (4x6") / 5x15 (2x6") image.

Paper Size	Number of images		Print Finish	Ink ribbon waste number (10x15 (4x6") conversion)	
				In the case of the image number of jobs that the next job is to use the ink ribbon over the entire surface	In the case of the image number of jobs that the next job is to use half of the ink ribbon
10x15 (4x6")	1	In the case of the image number of jobs that use half of the ink ribbon	Matte	1	2
5x15x2 Type 1 (2x6"x2)	1			1	2
5x15x2 Type 2 (2x6"x2)	1 or 2			1	2
5x15 (2x6")	1			1	2
10x15 (4x6") white border	1			1	2
10x15 (4x6")	1		Glossy	1	0 ^{*2}
5x15x2 Type 1 (2x6"x2)	1			1	0 ^{*2}
5x15x2 Type 2 (2x6"x2)	1 or 2			1	0 ^{*2}
5x15 (2x6")	1			1	0 ^{*2}
10x15 (4x6") white border	1			1	0 ^{*2}
10x15 (4x6")	2	In the case of the image number of jobs that use the entire surface of the ink ribbon	Glossy/ Matte	0	0
5x15x2 Type 1 (2x6"x2)	2			0	0
5x15x2 Type 2 (2x6"x2)	3 or 4			0	0
5x15 (2x6") ^{*1}	2 or 3			0	0
10x15 (4x6") white border	2			0	0

*1: 5x15 (2x6") size prints a combination of up to three 5x15 (2x6") strips on a single ink ribbon patch of 15x20 (6x8") or 15x23 (6x9") media type.

*2: Whenever "Print Mode" is set to Fine with 15x20 (6x8") or 15x23 (6x9") media set, the printer may not perform the rewind function due to image content and unused ink ribbon might be discarded. Using 15x20 (6x8") or 15x23 (6x9") media set under Fine mode for these print sizes, it is recommended to create even number of jobs to use the whole ink ribbon patch, even if the print finish is glossy.

4) Color conversion

Set whether or not to color conversion in printer.

Disabled: Color conversion is not performed.

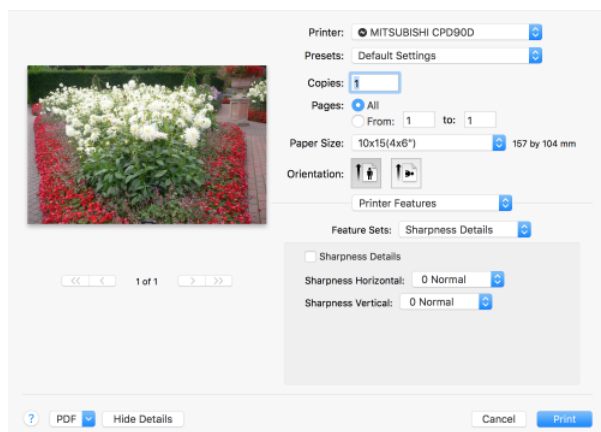
Enabled : Color conversion is performed.

5) Margin Cut Off

Margin cut ON or Off is set.

If the setting is ON, then print without margin cut.

When “Feature Sets” of “Printer Features” is set to “Sharpness Details”, the menu display changes and the following settings become configurable.



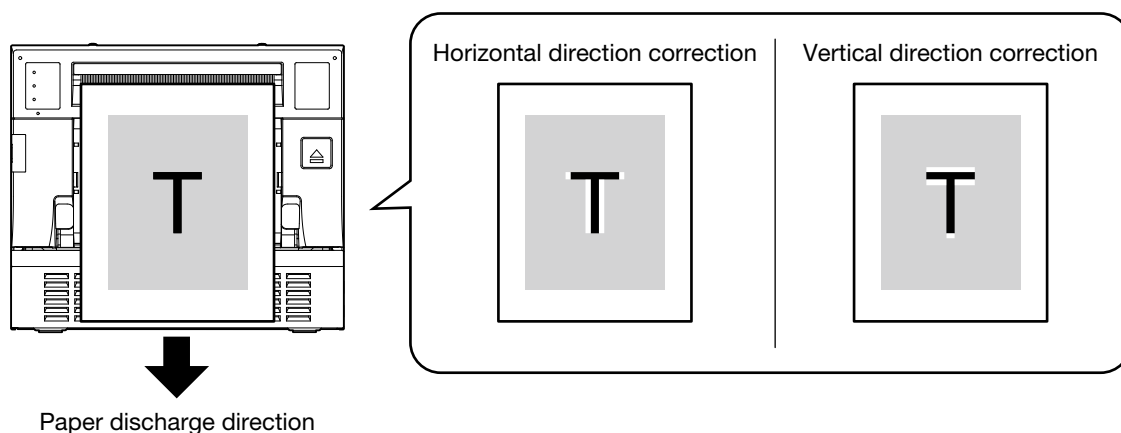
<Fig.14 Printer Features menu>

6) Sharpness Details

If the setting is ON, set the sharpness for each of horizontal and vertical direction.

Set OFF in the menu of the sharpness of 1), you set at the same strength for both horizontal and vertical directions.

* It is shown in figure the paper discharge direction and the horizontal/vertical relationship.



7) Sharpness Horizontal

none/-3 Soft/-2/-1/0 Normal/1/2/3/4 Hard

Level of outline correction is changed in the horizontal direction.

none : Not perform the outline correction.

-3 to 3 : The value is smaller, the outline becomes softer.

The value is larger, the outline becomes sharper.

8) Sharpness Vertical

none/-3 Soft/-2/-1/0 Normal/1/2/3/4 Hard

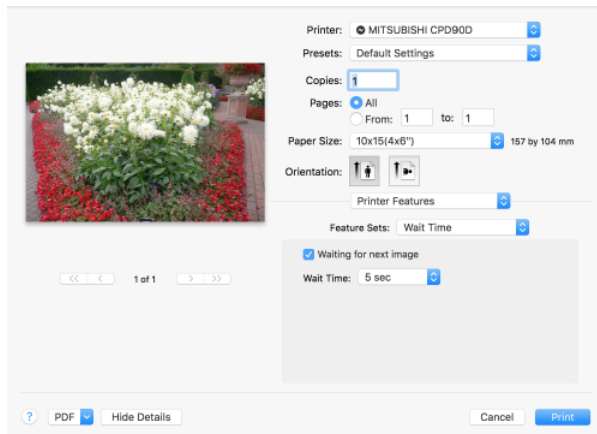
Level of outline correction is changed in the vertical direction.

none : Not perform the outline correction.

-3 to 3 : The value is smaller, the outline becomes softer.

The value is larger, the outline becomes sharper.

When “Feature Sets” of “Printer Features” is set to “Wait Time”, the menu display changes and the following settings become configurable.



<Fig.15 Printer Features menu>

9) Waiting for next image

If the setting is ON, in the media of 15x20 (6x8”) or 15x23 (6x9”), if you print the half size, set the waiting time for printing the next image in the same ink surface.

If the setting is OFF, print without waiting.

* This setting is intended to set the waiting time after the transfer of the last of the image of the print job. Waiting time between images in the print job is fixed (100 seconds).

10)Wait Time

It set wait time. (Range: 1-100 sec)

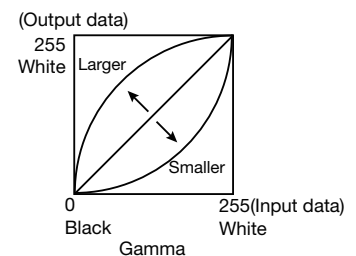
When “Feature Sets” of “Printer Features” is set to “Gamma”, “Brightness”, or “Contrast”, the menu display changes and the following settings become configurable.

11)Gamma

Adjusted value R, G, and B (-5 - +5)

Use this function to adjust the density of the middle tones.

When you want to increase the density of the middle tones, decrease the value of “Gamma”.

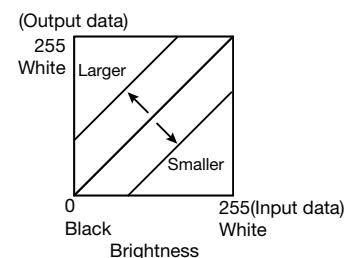


12)Brightness

Adjusted value R, G, and B (-64 - +64)

Use this function to adjust the brightness of the print picture.

When you want to make the print picture darker, decrease the value of “Brightness”.

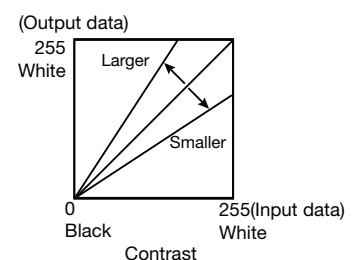


13)Contrast

Adjusted value R, G, and B (-64 - +64)

Use this function to adjust the contrast of the print picture.

When you want to make the contrast of the print picture stronger, increase the value of “Contrast”.



2. Error indication

No.	Error dialog message	Operation
1	Printer is not connected.	When the error is resolved, printing restarts.
2	Something is wrong with the printer. Turn the printer Off and then On again, and try again.	The print job operations of the Print Queue screen are equipped as standard in the operating system. The buttons as follows are displayed.
3	Something is wrong with the printer. (xxxx) Turn the printer Off and then On again, and try again.	
4	Paper size of printer driver and Ink Ribbon type do not match.	
5	Ink Ribbon Empty (xxxx)	Delete Job: Deletes the job being selected in the Print Queue.
6	Ink Ribbon End (xxxx)	
7	Ink Ribbon Error (xxxx) Check Ink Ribbon.	Hold Job: Holds the job being selected in the Print Queue.
8	Ink Ribbon Error (xxxx) Check Ink Ribbon and set Paper again.	
9	It is not equipped with the Paper Strip Bin (xxxx)	Resume Job: Resumes printing of the held job being selected in the Print Queue.
10	Paper Empty (xxxx)	
11	Printing unit is opened. (xxxx)	* Numeric characters are indicated in (xxxx).
12	Printing unit was opened while printing. (xxxx) Check Ink Ribbon and set Paper again.	
13	The printer was turned off while printing. (xxxx)	
14	Ink Ribbon and Paper type do not match. (xxxx)	
15	Paper End (xxxx)	
16	Paper JAM (xxxx) Check Ink Ribbon and set Paper again.	
17	Mechanical Error (xxxx) Check Ink Ribbon and set Paper again.	
18	Mechanical Error (xxxx) Turn the printer Off and then On again, and try again.	
19	Fan Lock Error (xxxx) Turn the printer Off and then On again, and try again.	
20	Thermistor Error (xxxx) Turn the printer Off and then On again, and try again.	
21	Color Sensor Error (xxxx) Turn the printer Off and then On again, and try again.	
22	MAT OP Error (xxxx) Turn the printer Off and then On again, and try again.	
23	Humidity sensor Error (xxxx) Turn the printer Off and then On again, and try again.	
24	EEPROM Error (xxxx) Turn the printer Off and then On again, and try again.	
25	FLASH Access Error (xxxx) Turn the printer Off and then On again, and try again.	
26	MDA Error (xxxx) Turn the printer Off and then On again, and try again.	
27	Power voltage Error (xxxx) Turn the printer Off and then On again, and try again.	
28	Preheat Error (xxxx) Turn the printer Off and then On again, and try again.	
29	Printer data transfer Error (xxxx) Turn the printer Off and then On again, and try again.	
30	DDR Error (xxxx) Turn the printer Off and then On again, and try again.	
31	FPGA Error (xxxx) Turn the printer Off and then On again, and try again.	
32	Printer driver settings is incorrect.	
33	Transfer image size is out of range.	

* The error dialog messages are displayed in the Print Queue screen of "MITSUBISHI CPD90D" which is displayed by clicking the "Open Print Queue" button in "Printers & Scanners".

"Printers & Scanners": "Print & Fax" in Mac OS X 10.6 and "Print & Scan" in Mac OS X 10.7 and 10.8.

* When no error message is displayed on the monitor and printing is not carried out, check the indicators on the front of the printer.

* For the details of the indicators on the printer, see the operation manual of CP-D90 series printer.

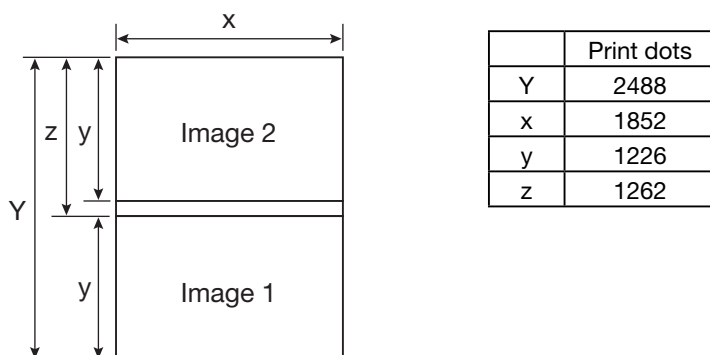
* In Mac OS 10.8 to 10.11 when the error message is long, "..." is displayed in the middle of a sentence and the whole sentence may not be displayed. In such cases, please clicks [i] mark of right of the error dialog, the whole sentence is displayed.

- 1) Secure of Hard disk for spool file
Secure the capacity of Hard disk for spool file enough for the printer operation and the number of printing sheets.
The printing cannot be correctly carried out when the capacity is running short.
The drive for spool file is the same drive as the system drive usually.
- 2) Operation of the printer
Refer to the operation manual of the printer.
Do not turn off the power switch during data transfer or print.
If you turn off the power switch, restarting of a computer may be needed.
When deletion of a printing data cannot be performed, restarting of a computer is required.
- 3) About connection of a computer and a printer
Do not disconnect the interface cable during data transfer.
If the interface cable is disconnected, wait 1 minute or more after disconnecting the cable to connect it again. If the cable is connected without leaving an enough interval, the printer driver may not work correctly.
- 4) System requirements for USB interface
Use a personal computer that are USB-guaranteed by the manufacturer.
CP-D90 series printer supports USB 2.0 (Hi-Speed USB) interface.
- 5) Connection of USB cable
When you take out and insert a USB cable after installation of a printer driver, wait 10 seconds or more after extracting a cable.
If the cable is reinserted without leaving an interval, the printer may not operate normally.
- 6) Print job
Do not delete the print job in the spooler during data transfer. When deleting it, do not start printing until the printer becomes to the initial status.
- 7) Number of prints
With some applications, the number of prints set by the printer driver does not work. Set the number of prints from the print dialog box of the application.
- 8) Errors during printing
When an error occurs during printing, it may not be displayed on the monitor. Check the indicator on the front of the printer and take the countermeasure, and then start printing procedure again. For the indication by the indicator of the printer and the countermeasure, see the operation manual of the printer.
- 9) When "Resume Job" is selected after "Hold Job" is performed in the Print Queue screen, an error may not be displayed even if it occurs. In this case, select "Hold Job" and resolve the error, then click "Resume Job" to resume printing.
- 10) "Add" of the "Printer List"
In some version of Mac OS X, you may not print images with the printer registered by the "Add" button. Make the computer recognize the printer by the procedure described in "Installation."
- 11) When the printer is turned off or a USB cable is not connected to the printer, the printer status may be displayed as standby. However, it does not affect the further printing operations.
- 12) In Mac OS X 10.6, when an error job is deleted without resolving the error, the error indication in the Print Queue may not be cancelled even if the error is resolved. In this case, delete the printer from the printer list, and then add it again to cancel the error indication.
- 13) When you pause or resume the printing or delete the job in the Print Queue while the printer driver is communicating with the printer such as during the printer error, the communication may fail and the deleted job may be printed.

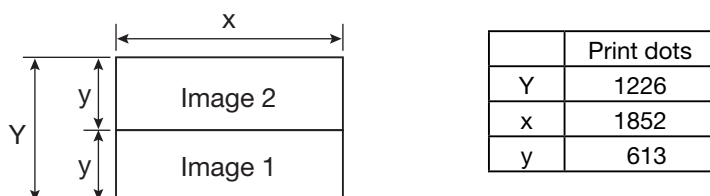
- 14) When the size mismatch error occurs in Mac OS X 10.7, 10.8, 10.9, 10.10, or 10.11 (See 2. Error indication No.4) and the failed job is deleted in the Print Queue without resolving the error, the printing may not be started even when the next print job is sent.
In this case, connect the USB cable again. The error indication is canceled in the Print Queue.
If you keep the USB cable connected, printing is started after a while.
- 15) When the 5x15x2 (2x6"x2) (Type 1 or Type 2) is selected for the paper size
The paper cut position may shift depending on the printer.
- 16) When the 5x15x2 (2x6"x2) Type 2 is selected for the paper size
In Mac OS 10.7 to 10.11, when the number of printed pictures (pages) or that of copies is set to an odd number, a blank page may be printed, if you delete or pause the job in the Print Queue during the printer error.

Operating directions for customer's purpose

- When you want to adjust the color of the print image.
Set the following settings in "Feature Sets" of "Printer Features menu".
(Note that the effects are invalid on the display even if you make following setting.)
 - When you want the density of entire print picture to be thick (dark), decrease the value of "Brightness".
 - When the print picture is out of focus (the contrast is weak), increase the value of "Contrast".
The contrast becomes stronger.
 - When you want to change the color of printout.
Change the value of "Brightness".
Increase Red : Increase the "R" value.
Increase Green : Increase the "G" value.
Increase Blue : Increase the "B" value.
- When "10x15x2 (4x6"x2)" is selected in "Paper size"
Lay out the image 1 and image 2 as following and print them.



- When "5x15x2 Type 1" is selected in "Paper size"
Lay out the image 1 and image 2 as following and print them.



- When "5x15x2 Type 2" is selected in "Paper size"
When multiple images are selected in "Preview", etc., the images are printed in 5x15 (2x6") size.
When the number of pages or copies is odd, the last print of 5x15 (2x6") size paper is output as a blank page. Depending on the application software, a blank page may be set every other page.

Prohibition matter

We prohibit Reverse Engineering, decompiling or reverse assembling of this driver software.

Exemption from responsibility

Occasionally, this software does not operate normally depending on operating environment. Moreover, Mitsubishi Electric Co. will not assume any responsibility for damage (including, but not limited to, lost profit or damage caused from special circumstances etc.) occurring during the use of this driver.