

PRINTER DRIVER README

(CPD900W/CPD900N0)

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Refer to the MITSUBISHI Digital Color Printer's World Wide Web Site, on the Internet.
<http://www.vcp.melco.co.jp>

Use the printer driver corresponding to the operating system.

CPD900W : Windows98/Millennium

CPD900N0 : Windows2000/XP

System requirements

Computer : Computer equipped with Pentium class CPU or more
Main storage memory : 32MByte or more
Hard disk : Empty capacity 24 MByte or more
USB cable : Be sure to use a cable 2m or under.

Operating system and interface

OK: Support - : Not support

Driver	Operating system	USB*1
CPD900W	Microsoft(R)Windows(R)98	OK
	Microsoft(R)Windows(R)Millennium	OK
CPD900N0	Microsoft(R)Windows(R)2000	OK
	Microsoft(R)Windows(R)XP	OK

*1: Use the computers equipped with USB interface listed below:

Computers pre-installed with Windows98/Millennium/2000/XP.

Computers installed with Windows98/Millennium/2000/XP that are USB-guaranteed by the manufacturer.

Installation

1.CPD900W

1.1.Install the USB port

- 1)Start Microsoft(R) Windows(R) 98/Millennium Operating system.
- 2)Connect a USB cable between the computer and the printer before the installation begins.
- 3)The Add New Hardware Wizard appears. Click “Next” button.(Fig.1)
- 4)Select “Search for the best driver for your device.” and insert the installation disk.
Click “Next” button.(Fig.2)



<Fig.1>



<Fig.2>

- 5)When using Windows Millennium, the USB port will be installed. Proceed to 8).
- 6)In ”Specify a location”, specify the CPD900W folder of the installation disk and click “Next” button.(Fig.3)
(ex. A:\CPD900W)
- 7)Click “Next” button. The USB port will be installed.(Fig.4)
- 8)Click “Finish” button.(Fig.5)



<Fig.3>



<Fig.4>



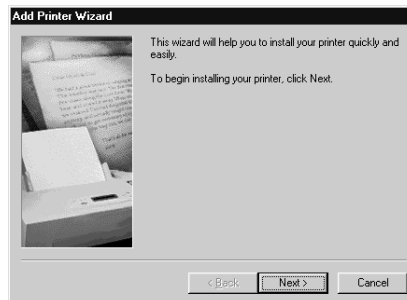
<Fig.5>

1.2. Install the Driver

- 1) Connect a USB cable between the computer and the printer before the installation begins.
- 2) Start Microsoft(R) Windows(R) 98/Millennium Operating system.
- 3) Click "Start" button and select "Printer (P)" of "Setting (S)" menu.
- 4) The window of "Printers" will be displayed.
Double-click "Add Printer" icon. (Fig.6)
- 5) "Add Printer wizard" starts. (Fig.7)

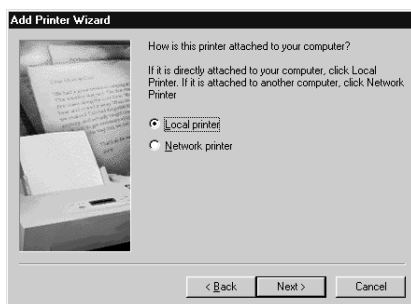


<Fig.6>



<Fig.7>

- 6) Click "Next" button.
In case of Windows 98/Millennium in that the network is set, the selection window of the local printer or the network printer will be displayed.
Select the local printer. (Fig.8)
- 7) Click the "Have Disk (H)" button. (Fig.9)
- 8) If the dialog "Install From Disk" is displayed, insert the installation disk.
Input the path to specify cpd900w.inf in the CPD900W folder .(ex. A:\CPD900W)
And click the "OK" button.



<Fig.8>

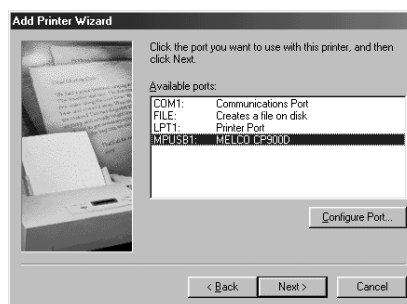


<Fig.9>

- 9) Select the printer to be used and click "Next" button. (Fig.10)
- 10) Select the connected printer from "Available Port (A)" and click "Next" button. (Fig.11)
If several USB printers are connected, they are displayed as "USB001", "USB002", etc.

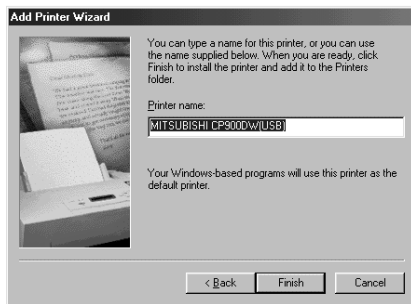


<Fig.10>



<Fig.11>

11) Click “Finish” button.(Fig.12)



<Fig.12>

12) Reboot after completing all procedures.

13) Open the printer properties. Print a test page to ensure that the driver has been installed correctly.

When you print the test page, choose the “Paper size” from the Paper tab, to match the installed media.

2.CPD900N0

2.1.Windows2000

2.1.1.Install the USB port

1) Start Microsoft(R) Windows(R) 2000 Operating system.

2) Connect a USB cable between the computer and the printer before the installation begins.

3) A USB port will be installed automatically.

*The OS standard USB port is used for USB connection in Windows 2000.

*Do not install the printer driver from “New hard ware addition wizard” which appears when the operating system is started. (Click the “Cancel” button.)

2.1.2.Install the driver

1) The printer must be connected before the installation begins.

2) Start Microsoft(R) Windows(R) 2000 Operating system.

3) Click “Start” button and select “Printer (P)” of “Setting (S)” menu.

4) The window of “Printers” will be displayed.

Double-click “Add Printer” icon. (Fig.13-1)

5) “Add Printer wizard” starts. Click “Next” button.(Fig.14-1)



<Fig.13-1>



<Fig.14-1>

6) In case of Windows 2000 in that the network is set, the selection window of the local printer or the network printer will be displayed.

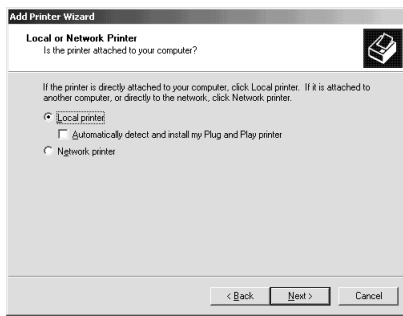
Select the local printer. (Fig.15-1)

7) Select the port which you would like to use, and click “NEXT” button.(Fig.16-1)

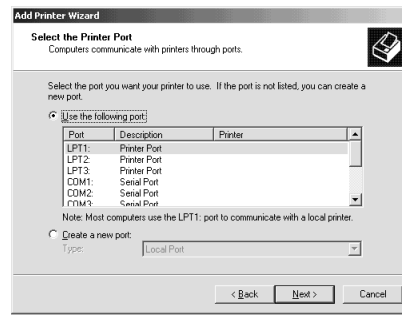
USB001 is usually selected.

If several USB printers are connected, they are displayed as “USB001”, “USB002”, etc.

Select the printer port which CP900DW is connected to.



<Fig.15-1>



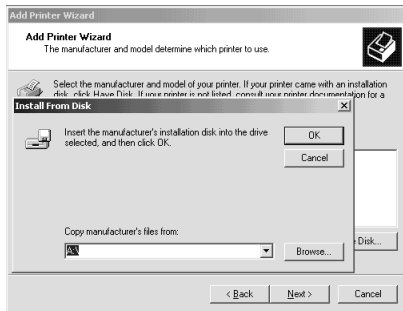
<Fig.16-1>

8) Press the “Have Disk (H)” button. (Fig.17-1)

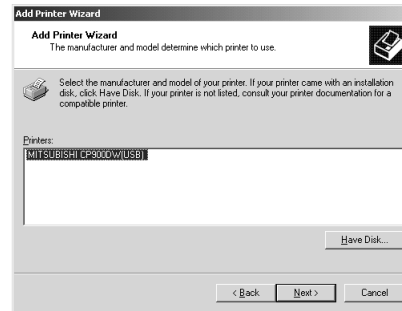
9) If the dialog “Install From Disk” is displayed, insert the installation disk.

Input the path, and specify the CPD900N0 folder (ex. A:\CPD900N0). Click the “OK” button.

10) Select the printer to be used and click “Next” button. (Fig.18-1)



<Fig.17-1>

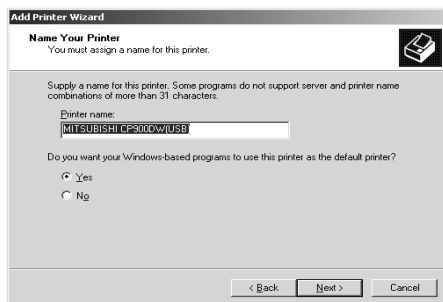


<Fig.18-1>

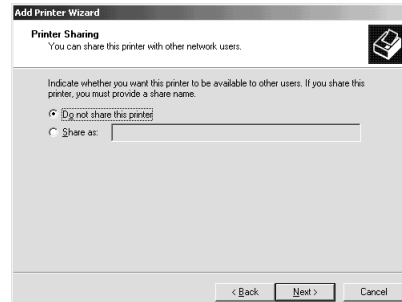
11) Name your printer. If you set it as the default printer, select “Yes”. Then, click “Next” button. (Fig.19-1)

12) Indicate whether this printer will be shared with other network users. (Fig.20-1)

Select “Do not share this printer” and click “Next” button.



<Fig.19-1>

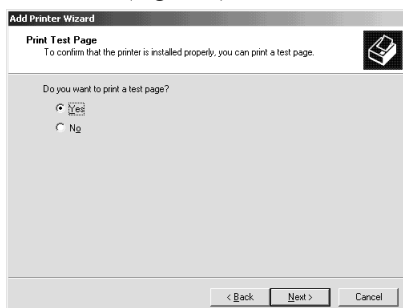


<Fig.20-1>

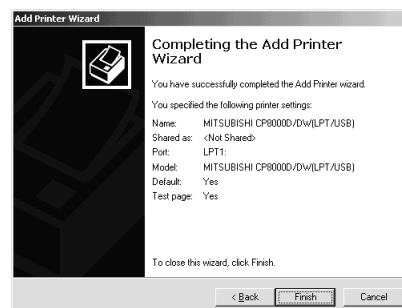
13) Set the test page printing. Select “No” and click “Next” button. (Fig.21-1)

14) Click “Finish” button. (Fig.22-1)

15) Click “Yes” button. (Fig.23-1)



<Fig.21-1>



<Fig.22-1>



<Fig.23-1>

16) Reboot after completing all procedures.

17) Confirm whether the test page is printed and the printer setting is normal.

When you print the test page, choose the correct “Paper size” from the Paper tab.

2.2.WindowsXP

2.2.1.Install the USB port

1) Start Microsoft(R) Windows(R) XP Operating system.

2) Connect a USB cable between the computer and the printer before the installation begins.

3) A USB port will be installed automatically.

*The OS standard USB port is used for USB connection in WindowsXP.

*Do not install the printer driver from “New hard ware addition wizard” which appears when the operating system is started. (Click the “Cancel” button.)

2.2.2.Install the driver

1) The printer must be connected before the installation begins.

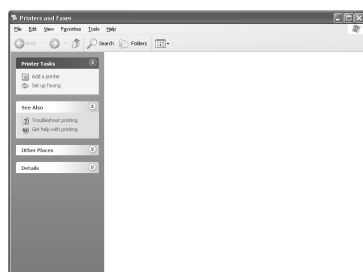
2) Start Microsoft(R) Windows(R) XP Operating system.

3) Click “Start” button and select “Printers and Faxes” menu.

4) The window of “Printers and Faxes” will be displayed.

Double-click “Add Printer” icon. (Fig.13-2)

5) “Add Printer wizard” starts. Click “Next” button.(Fig.14-2)



<Fig.13-2>



<Fig.14-2>

6) In case of WindowsXP in that the network is set, the selection window of the local printer or the network printer will be displayed.

Select the local printer. (Fig.15-2)

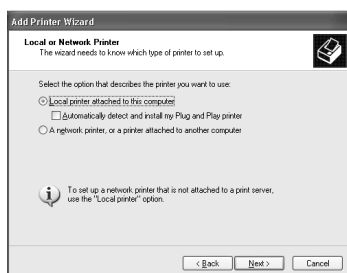
7) Select the port which you would like to use, and click “NEXT” button.(Fig.16-2)

USB printer

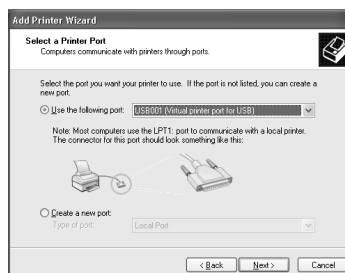
:USB001 is usually selected, in case of the USB printer.

If several USB printers are connected, they are displayed as “USB001”, “USB002”, etc.

Select the printer port which CP900DW is connected to.

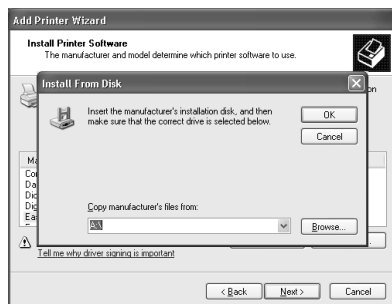


<Fig.15-2>

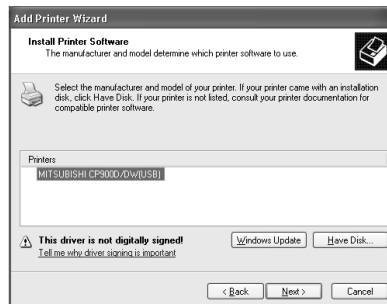


<Fig.16-2>

- 8) Press the “Have Disk (H)” button. (Fig.17-2)
- 9) If the dialog “Install From Disk” is displayed, insert the installation disk.
Input the path, and specify the CPD900N0 folder (ex. A:\CPD900N0). Click the “OK” button.
- 10) Select the printer to be used and click “Next” button. (Fig.18-2)

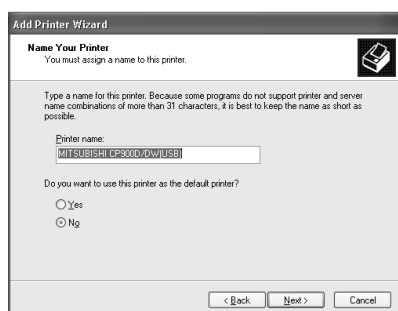


<Fig.17-2>

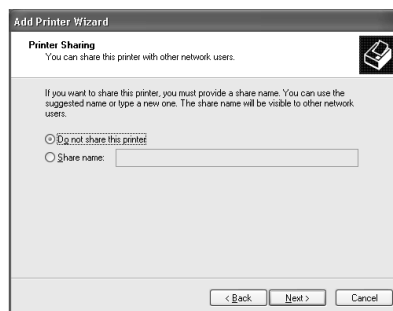


<Fig.18-2>

- 11) Name your printer. If you set it as the default printer, select “Yes”. Then, click “Next” button. (Fig.19-2)
- 12) Indicate whether this printer will be shared with other network users. (Fig.20-2)
Select “Do not share this printer” and click “Next” button.

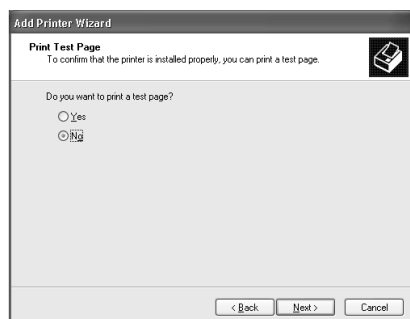


<Fig.19-2>



<Fig.20-2>

- 13) Set the test page printing. Select “No” and click “Next” button. (Fig.21-2)
- 14) Click “Finish” button. (Fig.22-2)
- 15) Click “Continue Anyway” button. (Fig.23-2)



<Fig.21-2>



<Fig.22-2>



<Fig.23-2>

- 16) Reboot after completing all procedures.
- 17) Confirm whether the test page is printed and the printer setting is normal.
When you print the test page, choose the correct “Paper size” from the Paper tab.

Uninstallation

Uninstallation procedure of CPD900W/CPD900N0 printer driver

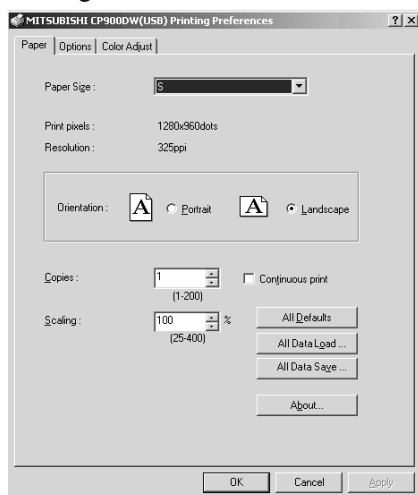
Operate the following procedures to uninstall CPD900W and CPD900N0.

- 1) Delete all printers installed from CPD900W and CPD900N0 in the printer folder.
- 2) Reboot after completing the above-mentioned procedure.

Uninstallation has completed.

Function explanation

1. Paper dialog



Paper size	Print pixel
S	1280 * 960
L	1280 * 1676

The number of available pixels in each paper size is shown.

<Fig.24. The dialog of “Paper”>

1) Paper Size

The size of paper is selected. The number of pixels for each paper size are shown in the above table.

2) Print pixels

The number of available pixels for the user in each paper size is displayed.

3) Resolution

The resolution of printer is displayed (325 ppi fixed).

4) Orientation

The direction of paper is set.

5) Copies

The printer prints the number of printouts which is shown in dialog.

*When multiple copies are printed, it becomes like the example below usually.

(example) The print result of 2 copies of 3 pages: 1p 1p 2p 2p 3p 3p

*Some applications might not transmit as the above method.

(example) The print result of 2 copies of 3 pages

:To achieve 1p 2p 3p 1p 2p 3p, the application outputs each image twice.

6) Continuous print

When enabled, the same image will be printed until paper or ink sheet runs out.

To stop the continuous printing, press RESET button.

*The printer gives priority to a continuous print even if the number of copies is set from the application.

7) Scaling

Enlargement scale is set. (set range 25-400%)

8) All Defaults

All the settings in Paper dialog, Option dialog, Color Adjust dialog, and Fine Adjust dialog are reset to the default settings.

9) All Data Load

All the set data in Paper dialog, Option dialog, Color Adjust dialog, and Fine Adjust dialog are loaded.

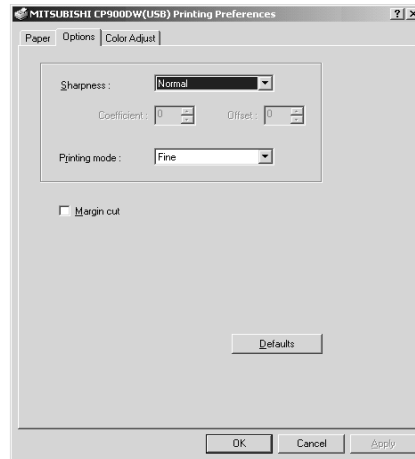
10) All Data Save

All the set data in Paper dialog, Option dialog, Color Adjust dialog, and Fine Adjust dialog are saved.

11) About...

Displays the version information of this driver.

2. Option setting dialog



<Fig.25 Option setting dialog>

1) Sharpness

Soft/Normal/Hard/User definition

Level of outline correction is changed.

When the user definition is selected, the coefficient and offset data can be changed.

*Coefficient: The outline correction level is changeable according to this value.

Soft 0 -< range >- 31 Hard

*Offset: It is possible to change the range of image considered to be outline in image according to this value.

When you reduce this value, the printout becomes rough feeling because of the emphasis of details.

When you enlarge this value, an outline correction comes to be effective in the part of white-black difference. As a result, the printout becomes smooth feeling.

Smooth feeling 0 -< range >-15 Rough feeling

2) Printing mode

Fast :Fast speed mode

Fine :High image quality mode

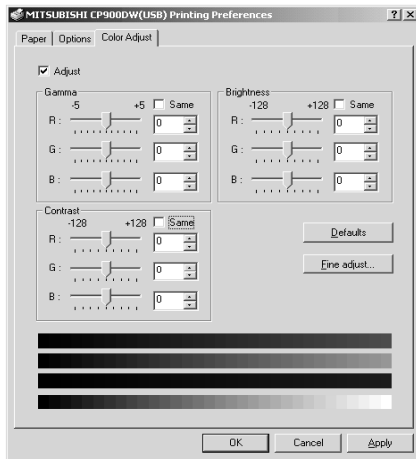
3) Margin cut

When enabled, the leading margin is cut after printing.

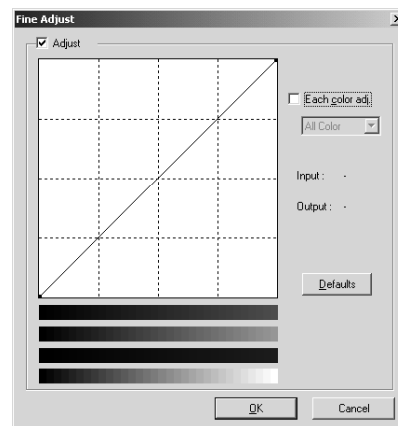
4) Defaults

All the settings in Option dialog are reset to the defaults.

3. Color adjustment



<Fig.26-1 Color adjustment dialog>



<Fig. 26-2 Fine adjustment dialog>

3.1. Color Adjust dialog

1) Adjust

In case of no check, processing speed goes up because of the operation processing omission.

2) Gamma adjustment

Adjusted value(-5 - +5)

When the density of entire print picture to be thick (dark), the value of “Gamma” of the color adjustment dialog must be decreased.

Same check box ON:R,G and B are same value, OFF:R,G and B are individually adjusted.

3) Brightness adjustment

Adjusted value (-128-+128)

$$R'(x) = R(x) + \text{Brightness}(R)$$

$$G'(x) = G(x) + \text{Brightness}(G)$$

$$B'(x) = B(x) + \text{Brightness}(B)$$

Same check box ON:R,G and B are same value, OFF:R,G and B are individually adjusted.

4) Contrast adjustment

Adjusted value (-128-+128)

Contrast ≥ 0

$$R'(x) = R(x) + (\text{Contrast}(R)/128) * x$$

$$G'(x) = G(x) + (\text{Contrast}(G)/128) * x$$

$$B'(x) = B(x) + (\text{Contrast}(B)/128) * x$$

Contrast < 0

$$R'(x) = R(x) + (\text{Contrast}(R)/128) * (x/2)$$

$$G'(x) = G(x) + (\text{Contrast}(G)/128) * (x/2)$$

$$B'(x) = B(x) + (\text{Contrast}(B)/128) * (x/2)$$

Same check box ON:R,G and B are same value, OFF:R,G and B are individually adjusted.

5) Fine Adjust...

The more minute color adjustments are carried out by the Gamma adjustment tone curve.

6) Defaults

All adjustable values in Color Adjust dialog become 0.

3.2. Fine Adjust dialog

1) Adjustment

In case of no check, processing speed goes up because of the operation processing omission.

2) Each color adjustment

ON: Each RGB color is individually adjusted.

OFF: The same adjustment of each RGB color carries out.

3) Adjustment color selection

At adjusting, the adjustment color is selected.

4) I/O value display

The input (gradation value before adjustment) and output (gradation value after adjustment) of the adjustment point are displayed.

5) Defaults

All the tone curves become a linear straight line of the range (0, 0) - (255, 255).

4. Error indication

No.	Error dialog message	Button	Operation
(1)-1 For CPD900 W	Printer Power is off or Cable is not connected. After removing Error and clicking OK button, Printer will restart.	OK Cancel	When clicking OK button after the error is resolved, the dialog disappears and printing starts automatically. If OK button is clicked without resolving the error, the dialog will be displayed again. If Cancel button is clicked regardless of resolving the error, the dialog and the print job will disappear.
(1)-2 For CPD900 N0	Printer Power is off or Cable is not connected. After removing Error and clicking OK button, Printer will restart.	OK	When clicking OK button after the error is resolved, the dialog disappears and printing starts automatically. If OK button is clicked without resolving the error, only the dialog disappears. The print job is saved in the spooler.
(2)-1 CPD900 W	Printer Power is off or Cable is not connected.	Cancel	When the error is resolved, the dialog remains. If Cancel button is clicked regardless of resolving the error or not, the dialog and the print job will disappear.
(2)-2 CPD900 N0	Printer Power is off or Cable is not connected.	OK	When the error is resolved, the dialog disappears and printing starts automatically. If OK button is clicked without resolving the error, only the dialog disappears. The print job is saved in the spooler.
(3)	Door is opened. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(4)	Paper empty. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(5)	Something is wrong with the printer. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(6)	Ink sheet cartridge is not correctly installed. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(7)	Ink sheet is exhausted. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(8)	The ink sheet is not standard. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(9)	The ink sheet information is undetectable. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(10)	Ink sheet and paper type do not match. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.
(11)	Paper jam. After removing Error, Printer will restart.	Cancel	When the error is resolved, the dialog disappears and printing starts automatically. If Cancel button is clicked without resolving the error, printing is canceled.

The error may not be displayed in the case of system configurations other than that shown below.

Interface	Operating system	Setting
USB	Windows98	Set "Enable bi-directional support for this printer" for printer properties.
	WindowsMillennium	
	Windows2000	
	WindowsXP	

1. All printer drivers

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 drive of Windows system usually.

2) Print test of the printer with small paper size

A part of the image is cut by printing the test page at installing.

In this case, print after adjusting the enlargement scale smaller after installing.

3) Operation of the CP900DW

Refer to the operation manual of the CP900DW.

Do not turn off the power switch during data transfer or print.

If you turn off the power switch, re-starting of a computer may be needed.

When deletion of a printing data cannot be performed, re-starting of a computer is required.

4) Applicability of color adjustment

The color adjustment is applied the entire printing range including the background.

5) About "Print directly to the printer"

With some applications, if "Print directly to the printer" is selected, objects may not be printed correctly.

In that case, select "Spool print documents ..." for printing.

CPD900W : the "details" page of CPD900W's property sheet

CPD900N0 : the "details" page of CP900N0's property sheet

6) About "Continuous print"

When you stop "Continuous print", press FEED&CUT button while holding RESET button.

If the next image is printed, press FEED&CUT button while holding RESET button again.

7) About connection of a computer and a printer

Only one printer should be connected to a single computer.

Do not disconnect the interface cable during data transfer.

8) System requirements for USB interface

Use the computers equipped with USB interface listed below.

Computers pre-installed with Windows98/Millennium/2000/XP.

Computers installed with Windows98/Millennium/2000/XP that are USB-guaranteed by the manufacturer.

9) Connection of USB cable

When you take out and insert a USB cable after installation of a printer driver, wait 5 seconds or more after extracting a cable.

If the cable is reinserted without leaving an interval, the printer may not operate normally.

2. CPD900W

1) About the Spool Settings of USB

Do not select "Disable bi-directional support for this printer" in the printer's property settings.

2) Even if the USB port is properly installed, it may be displayed on the printer property as "MPUSB1:unknown device."

In this case, printing is performed properly from the printer.

3. CPD900N0

1) When you print and it is displayed as 'Parameter's value is invalid.', perform the following operations.

a) Select 'Device Manager' from 'Hardware' tab of 'System Properties.'

b) Select 'Scan for hardware changes.'

Operating directions for customer's purpose

1. When you want to set an outline emphasis of the print picture manually.
Choose the user definition of "Outline correction" on the option setting screen.
At that time, it becomes possible to set the coefficient and the offset value.
Refer this value, and choose the favorite outline correction.

Soft	:Coefficient 1, Offset: 14
	In case of a lot of noise elements in the image (rough feeling) or shading of the outline of the image, choose this setting.
Hard	:Coefficient 4, Offset: 2
	In case you want to clear the part of obscured image, to clarify the outline of the image, choose this setting.
	Higher resolution picture can be achieved.
2. When you want to adjust the color of the print image.
If you make following setting, the effect are invalid on the display.
 - 1) When you want the density of entire print picture to be thick (dark), decrease the value of "Brightness" of the color adjustment dialog.
 - 2) When the focus of the print picture is loose (The contrast is weak), increase the value of "Contrast" of the color adjustment dialog.
The contrast becomes stronger.
 - 3) When you want to change the color of printout.
Change the value of "Brightness".

Increase Red	:Increase the "R" value of the color adjustment dialog.
Increase Green	:Increase the "G" value of the color adjustment dialog.
Increase Blue	:Increase the "B" value of the color adjustment dialog.
 - 4) When you want to adjust Gamma of the printout.
By moving the graph of the Gamma adjustment dialog with mouse, The density of the entire image can be adjusted to the arbitrary Gamma curve.
The density becomes high (dark) when decrease the output value compare with the input value.
The density becomes low (bright) when enlarging the output value compare with the input value.

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.