

PRINTER DRIVER GUIDE

(For Windows® CP-D70DW series)

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

<http://www.MitsubishiElectric.co.jp/vcp/>

CP-D70DW series printer : CP-D70DW, CP-D707DW

Use the printer driver corresponding to the operating system.

CPD70X : Windows XP

CPD70V : Windows Vista and Windows 7

*When you use Windows 7, install the printer driver first, and then connect the printer to the personal computer.

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 : Computer equipped with Pentium class CPU or more

Main storage memory : 512 Mbytes or more

Hard disk : Empty capacity 512 Mbytes or more

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

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

OK: Support

| Driver | Operating system | USB*1 |
|--------|------------------------|-------|
| CPD70X | Microsoft® Windows® XP | OK |
| CPD70V | Windows Vista® | |
| | Windows® 7 | |

*1: CP-D70DW series printer supports USB 2.0 (Hi-Speed USB) interface. As USB 2.0 is fully upward-compatible with USB 1.1, CP-D70DW series printer can be used with a personal computer that supports USB 1.1 interface.

To use CP-D70DW series printer based on USB 2.0 (Hi-Speed USB), connect with a personal computer that supports USB 2.0 (Hi-Speed USB). For USB 2.0 (Hi-Speed USB) compatibility of your personal computer, contact the manufacturer of the personal computer.

Installation

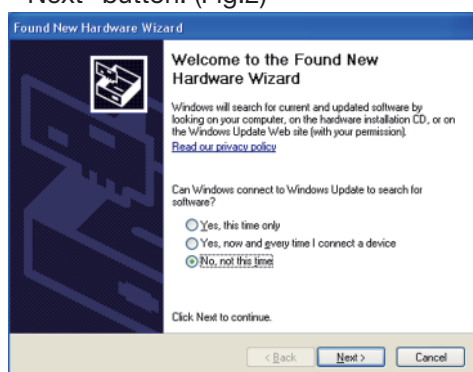
1.Windows XP

1.1.Installing the USB port

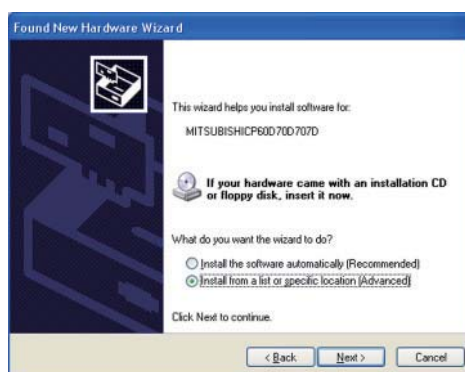
- 1) Start Microsoft® Windows® XP operating system.
- 2) Logon as an Administrator or Administrator group members.
- 3) Connect a USB cable between the computer and the printer before starting the installation.
- 4) Turn on the printer.
- 5) A USB Printing Support will be installed automatically.
- 6) “Found New Hardware Wizard” appears. (Fig.1)

1.2.Installing the driver

- 1) Insert the CD-ROM.
- 2) Select “No, not this time” on “Found New Hardware Wizard” and click “Next” button. (Fig.1)
- 3) Select “Install from a list of specific location (Advanced)” on “Found New Hardware Wizard” and click “Next” button. (Fig.2)

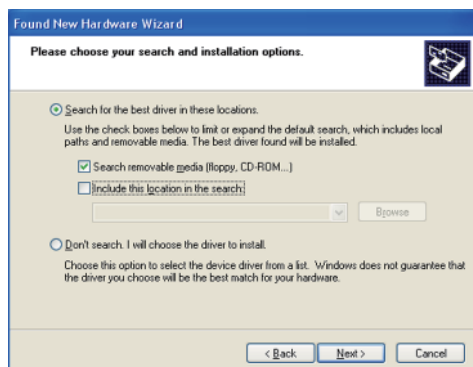


<Fig.1>



<Fig.2>

- 4) Select “Search removable media (floppy, CD-ROM...)” and click “Next” button. (Fig.3)
- 5) Click “Continue Anyway” button. (Fig.4)

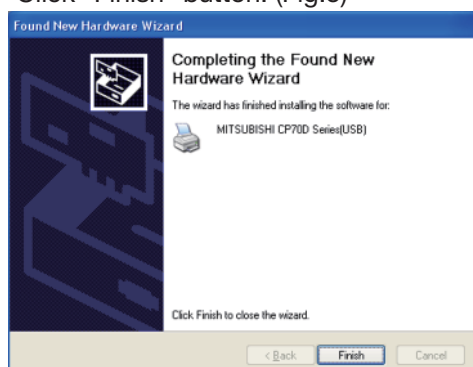


<Fig.3>



<Fig.4>

- 6) Click “Finish” button. (Fig.5)



<Fig.5>

- 7) Carry out “Test print” from the printer property to check the printer setting. When printing the test page, select the size of the paper that is loaded in the paper tray on “Print” tab on the printer property.

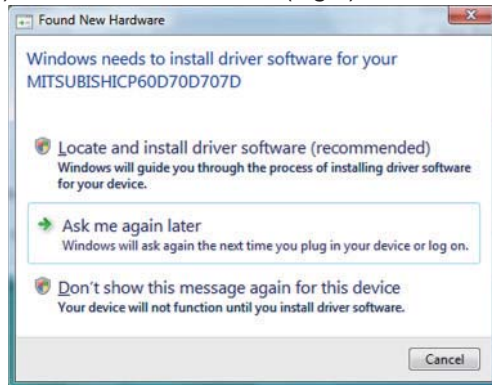
2.Windows Vista

2.1.Installing the USB port

- 1) Start Windows Vista® operating system.
- 2) Logon as an Administrator or Administrator group members.
- 3) Connect a USB cable between the computer and the printer before starting the installation.
- 4) Turn on the printer.
- 5) A USB Printing Support will be installed automatically.
- 6) Click "Locate and install driver software" button on "Found New Hardware Wizard." (Fig.6)

2.2.Installing the driver

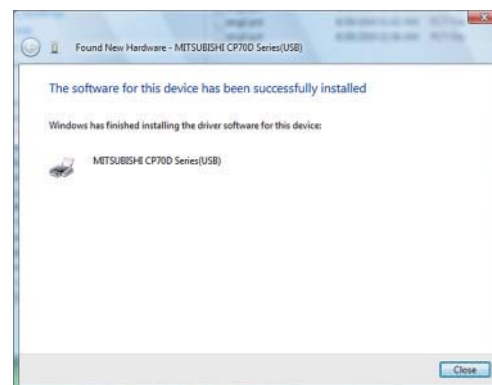
- 1) Insert the CD-ROM.
- 2) Click "Continue" button on "User Account Control" dialog.
- 3) Select "Install this driver software anyway." (Fig.7)
- 4) Click "Close" button. (Fig.8)



<Fig.6>



<Fig.7>



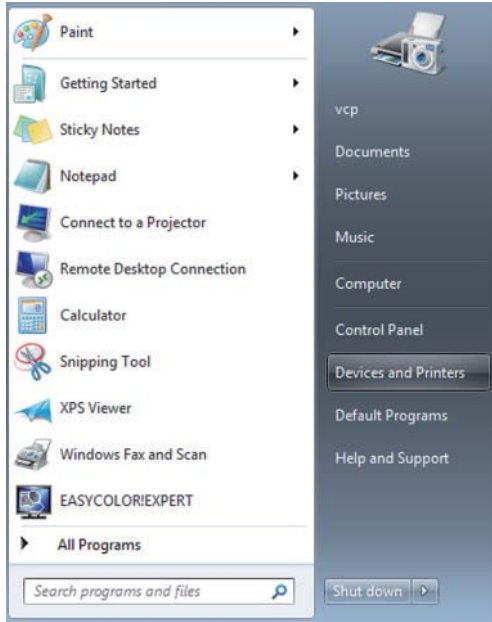
<Fig.8>

3.Windows 7

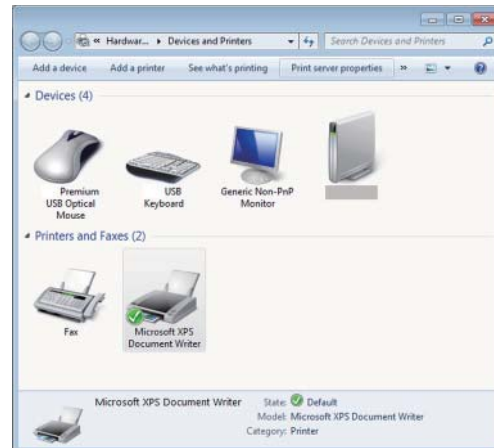
3.1. Installing the driver

* Install the printer driver for Windows 7 before you connect the printer to your PC.

- 1) Start Windows® 7 operating system.
- 2) Logon as an Administrator or Administrator group members.
- 3) Click Start button and select “Devices and Printers” from Start Menu. (Fig.9)
- 4) In “Devices and Printers” window, while any of the icon listed under “Printers and Faxes” is selected, click “Print server properties.” (Fig.10)

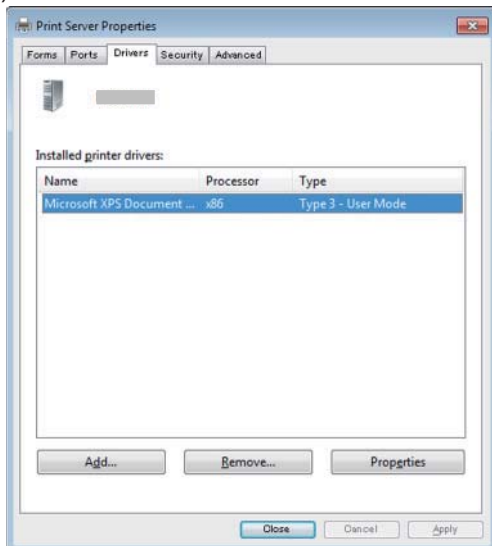


<Fig.9>

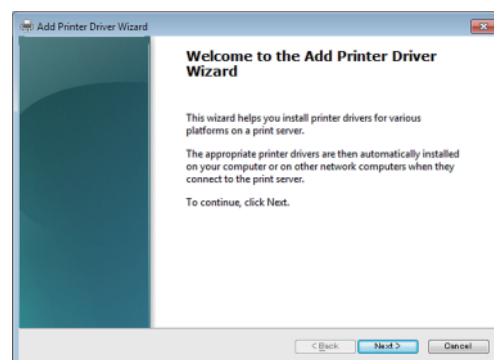


<Fig.10>

- 5) Open “Drivers” tab of “Print Server Properties”, and click “Add...” button. (Fig.11)
- 6) Click “Next” button on “Welcome to the Add Printer Driver Wizard” (Fig.12)

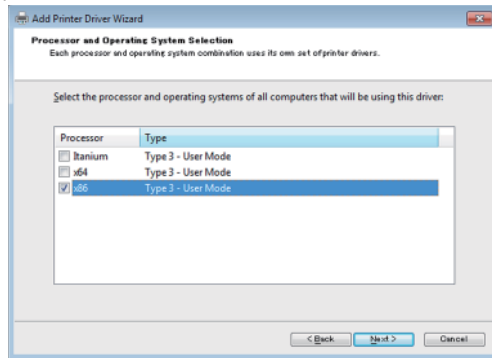


<Fig.11>

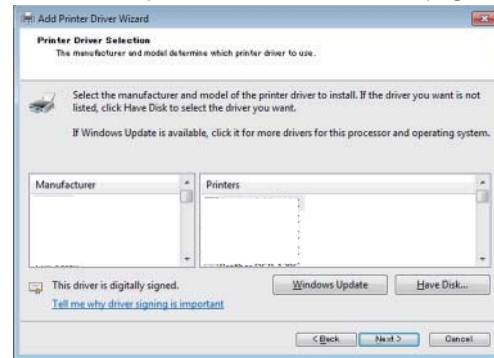


<Fig.12>

- 7) Make sure that “x86” (when you use the 32-bit driver) has a tick mark, then click “Next ” button. (Fig.13)
- 8) Click “Have Disk” to browse and select the folder where the printer driver is stored. (Fig.14)

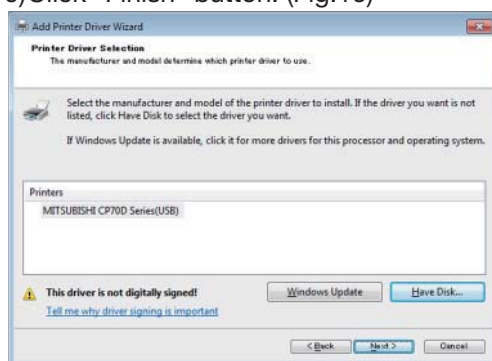


<Fig.13>

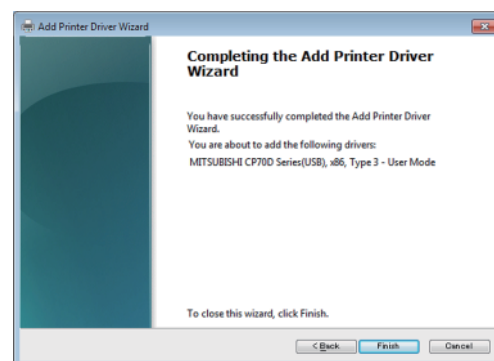


<Fig.14>

- 9) Click “Next ” button. (Fig.15)
- 10) Click “Finish” button. (Fig.16)



<Fig.15>



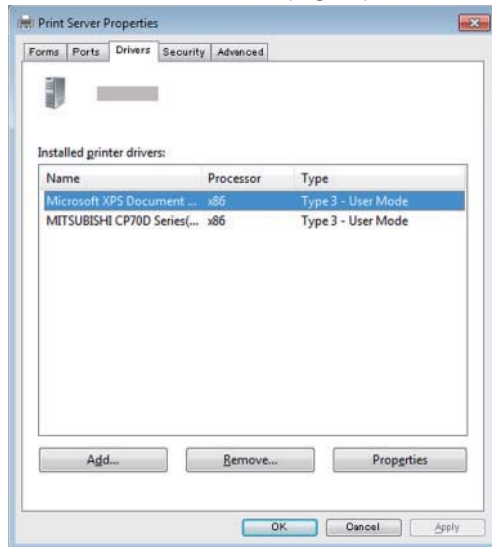
<Fig.16>

- 11) Select “Install this driver software anyway.” (Fig.17)
- Wait for a while until “Add Printer Driver Wizard” window (Fig.16) automatically closes, showing that the driver installation is completed.



<Fig.17>

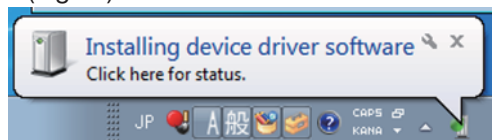
- 12) The installed printer driver will be displayed in Drivers tab on “Print Server Properties.”
Click “Close” button. (Fig.18)



<Fig.18>

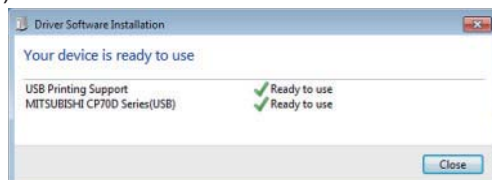
3.2.Installing the USB port

- 1) Now, power on the printer and connect it to your personal computer with USB cable.
- 2) The driver software will be automatically installed. Click the balloon to check the installation status.
(Fig.19)



<Fig.19>

- 3) Click “Close” button to finish the installation. (Fig.20)



<Fig.20>

Uninstallation

Operate the following procedures to uninstall the printer driver.

When uninstalling the printer driver, confirm that the printer driver is not used from the application or the print job does not remain in the spooler.

When you use the printer in Windows Vista or Windows 7, confirm that the printer is not set as default printer.

When you uninstall and then reinstall the printer driver in Windows Vista or Windows 7, restart the computer after the reinstallation is completed.

CPD70X (Windows XP)

- 1) Insert the CD-ROM.
- 2) Start up Rem70.exe of the WinXP folder in the Driver folder.
- 3) After confirming that "MITSUBISHI CP70D Series(USB)" is listed in the list box, press the "Uninstall" button.
- 4) When uninstallation is completed, a message of "Uninstallation was completed. Is a computer rebooted?" is displayed.
When you reboot the computer immediately, click the "Yes" button. When you reboot it later, click the "No" button. Make sure to reboot the computer.

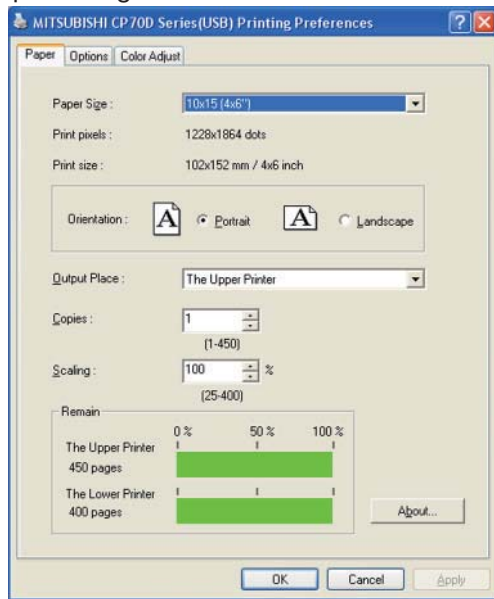
CPD70V (Windows Vista)

- 1) Click "Start" and open "Control Panel."
- 2) Select "Printers."
- 3) Right-click the printer icon in "Printers" folder and select "Delete."
- 4) Click "Yes" on printer delete acknowledge dialog.
- 5) Right-click in "Printers" folder and select "Run as Administrator."
Click "Server Properties" then "Printer Server Properties" window is displayed.
- 6) Open "Drivers" tab on "Printer Server Properties" dialog and select a driver to be uninstalled from the tab. Then, click "Remove" button.
- 7) Select "Remove driver and driver package." in "Remove Driver And Package" dialog and click "OK" button.
- 8) Click "Yes" button on "Printer Server Properties" dialog.
- 9) If "Driver package information collected." is displayed in "Remove Driver And Package" dialog, click "Delete" button.
- 10) Select "Remove driver and driver package.", and then click "OK" button.
- 11) Restart the personal computer.

CPD70V (Windows 7)

- 1) Click Start button and select "Devices and Printers" from Start Menu.
- 2) Right-click the printer icon to be removed and select "Remove device".
- 3) Click "Yes" button in the "Remove Device" confirmation dialog.
- 4) While selecting any of the icon under "Printers and Faxes" category in the "Devices and Printers" window, select "Printer server properties" at the top of the window.
- 5) Open "Drivers" tab of "Printer Server Properties" and click "Change From Settings" button.
- 6) The similar window taht doesn't have "Change From Settings" button at the bottom left is displayed.
Select the printer driver to be removed and click "Remove" button.
- 7) Select "Remove driver and driver package." in "Remove Driver And Package" dialog and click "OK".
- 8) Click "Yes" button in "Printer Server Properties" confirmation dialog.
- 9) Click "Delete" button when "Driver package information collected" is displayed in "Remove Driver Package" dialog.
- 10) Select "Remove driver and driver package.", and then click "OK" button.
- 11) Restart the personal computer.

1. Paper dialog



<Fig.21 The dialog of “Paper” (Windows XP)>

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 |
|--------------------------------------|------------|
| 9x13 (3.5x5") | 1076×1568 |
| 10x15 (4x6") | 1228×1864 |
| 13x18 (5x7") | 1568×2128 |
| 15x20 (6x8") | 1864×2422 |
| 15x23 (6x9") | 1864×2730 |
| 10x15x2 Type1 (4x6"x2) ^{*1} | 1864x2730 |
| 10x15x2 Type2 (4x6"x2) ^{*1} | 1228x1864 |

^{*1}: Use CK-D768 or CK-D769 for the PAPER/INK RIBBON SET.

For the print, see “Operating directions for customer’s purpose.”

The print pixels vary depending on the setting of Paper Size.

2) Print pixels

The number of pixels to print in each paper size is displayed.

3) Print size

The print size is displayed.

4) Orientation

The direction of paper is set.

5) Output Place

*The output place can be set only when you use CP-D707DW.

Auto Select: The printer to be used is selected automatically.

The Upper Printer: The upper printer is used for printing.

The Lower Printer: The lower printer is used for printing.

6) Copies

The printer prints the number of printouts which is shown in dialog. (Range : 1 - 450)

*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

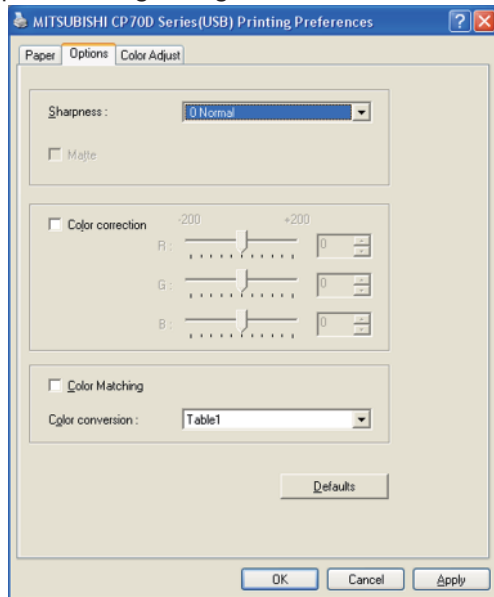
To achieve 1p 2p 3p 1p 2p 3p, the application outputs each image twice.

7) Scaling

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

- 8) Remain
The remaining amount of the ink ribbon in the connected CP-D70DW series printer is displayed in a bar. When a printer is not connected or information from the printer can not be read, this bar is displayed in gray.
- 9) About...
Displays the version information of this driver.

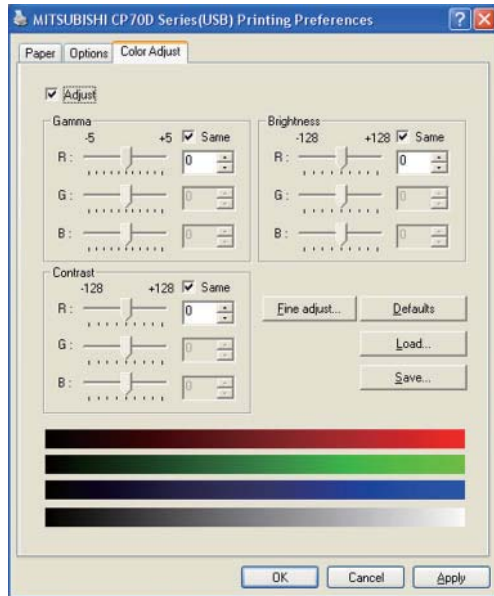
2. Option setting dialog



<Fig.22 Option setting dialog (Windows XP)>

- 1) Sharpness
none / -3 / -2 / -1 / 0 / 1 / 2 / 3
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) Color correction
The tone of light colors can be changed.
R :-200 - +200
As the value is smaller, the red tone is intensified.
As the value is larger, the red tone is weakened.
G :-200 - +200
As the value is smaller, the green tone is intensified.
As the value is larger, the green tone is weakened.
B :-200 - +200
As the value is smaller, the blue tone is intensified.
As the value is larger, the blue tone is weakened.
- 3) Color matching
Color matching is carried out according to the ICC profile set in the "Color control" tab.
When the ICC profile is not set in the "Color control" tab, set the "Color matching" to OFF because the color matching is not carried out in this case.
For ICC profile, see "2. Making the ICC profile" in the "Operating directions for customer's purpose."
- 4) Color conversion
none / Table1
none :Color conversion is not performed.
Table1 :Color conversion is performed.
When the color matching is set to ON, color conversion is not available.
- 5) Defaults
All the settings in Option dialog are reset to the defaults.

3. Color adjustment



<Fig. 23 Color adjustment dialog (Windows XP)>

3.1. Color Adjust dialog

1) Adjust

Tick the box for the color adjustment.

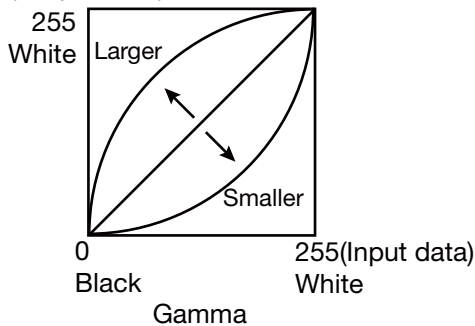
2) Gamma

Adjusted value (-5 - +5)

When you want to increase the density of the middle tones, decrease the value of "Gamma" of the color adjustment dialog.

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

(Output data)



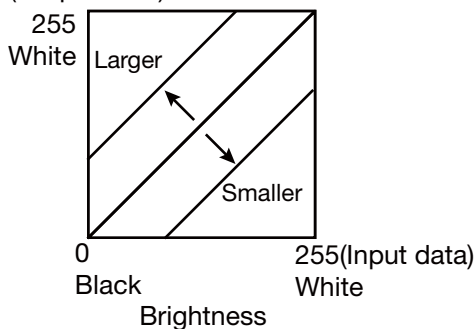
3) Brightness

Adjusted value (-128 - +128)

When you want the brightness of the print picture to be dark, the value of "Brightness" 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.

(Output data)



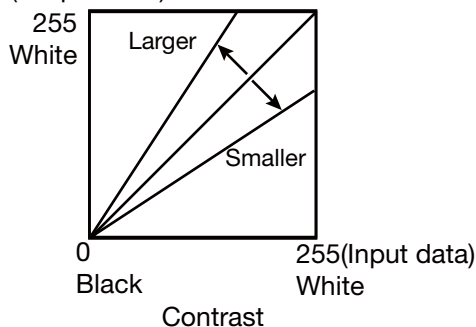
4) Contrast

Adjusted value (-128~+128)

When you want the contrast of the print picture to be strong, the value of “Contrast” of the color adjustment dialog must be increased.

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

(Output data)



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.

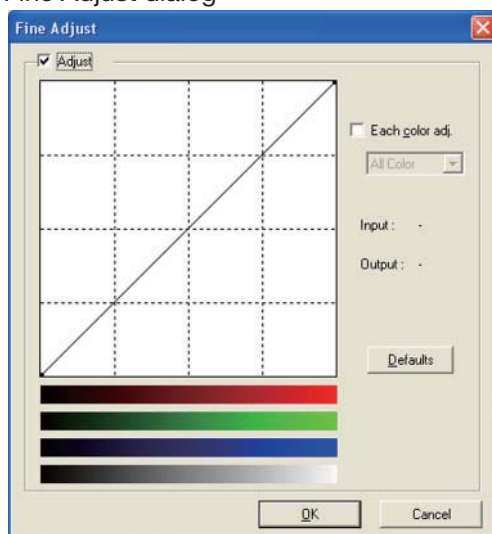
7) Load...

The color adjustment setting file is loaded.

8) Save...

The color adjustment setting is saved.

3.2. Fine Adjust dialog



<Fig.24 Fine Adjust dialog (Windows XP)>

1) Adjust

Tick the box for the color adjustment.

2) Each color adjustment

ON: Each RGB color is individually adjusted.

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

3) Selecting the color to be adjusted

When adjusting color individually, select the color to be adjusted.

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 | Printer is not connected. | OK | Click OK button. After connecting the printer (Turn on the printer./ Connect the I/F cable), printing starts automatically. |
| 2 | The printer does not respond. Turn the printer Off and then On again, and try again. | OK | When clicking OK button, the dialog disappears and the print job is deleted. After turning the power off and turning it back on, start printing process again. |
| 3 | Something is wrong with the printer.(XXXXXX) Turn the printer Off and then On again, and try again. | Cancel | When the error is resolved, the dialog disappears and printing starts automatically. When Cancel button is clicked, printing is canceled. All the jobs in the printer are cancelled and printing is cancelled. * Numeric characters are indicated in (XXXXXX). |
| 4 | Mechanical Error(XXXXXX). Set Paper again. | | |
| 5 | Mechanical Error(XXXXXX). Turn the printer Off and then On again, and try again. | | |
| 6 | Printing unit is opened. | | |
| 7 | Printing unit is opened while printing. | | |
| 8 | Ink ribbon and paper type do not match. | | |
| 9 | Ink ribbon is not correctly installed. | | |
| 10 | Ink ribbon end. | | |
| 11 | Paper empty. | | |
| 12 | The ink ribbon is not standard. | | |
| 13 | The printer was turned off while printing. Turn on a printer. | | |
| 14 | Paper jam(XXXXXX). Set Paper again. | | |
| 15 | Paper size of printer driver and ink ribbon type do not match. | | |
| 16 | Ink ribbon empty. Exchange ink ribbons. | | |
| 17 | Paper end. | | |
| 18 | It is not equipped with the Paper strip bin. | | |
| 19 | Ink ribbon error. (XXXXXX) Set Paper and ink ribbon again. | | |
| 20 | Ink ribbon error. (XXXXXX) Set Paper and ink ribbon again. | | |

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

* When an error occurs in the printer, printing starts automatically by resolving the error.

For the details of the indicators on the printer, see the operation manual of CP-D70DW series printer.

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

| Interface | Operating system | Setting |
|-----------|------------------|--|
| USB | Windows® XP | Set "Enable bidirectional support" for printer properties. |
| | Windows Vista® | |
| | Windows® 7 | |

* In Windows XP/Vista/7, the print job is not deleted if the printer is not turned on or the I/F cable is not connected. By turning on the printer or connecting the I/F cable, the data will be transferred again.

- 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) 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) Applicability of color adjustment
The color adjustment is applied to the entire printing range including the background.
- 4) 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.
CPD70X, CPD70V : the "details" page of printer property sheet
- 5) 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.
- 6) System requirements for USB interface
Use a personal computer with Windows XP, Windows Vista, or Windows 7 pre-installed, and make sure that its USB operation is guaranteed by the manufacturer.
CP-D70DW series printer supports USB 2.0 (Hi-Speed USB) interface. As USB 2.0 is fully upward-compatible with USB 1.1, CP-D70DW series printer can be used with a personal computer that supports USB 1.1 interface.
To use CP-D70DW series printer based on USB 2.0 (Hi-Speed USB), connect with a personal computer that supports USB 2.0 (Hi-Speed USB). For USB 2.0 (Hi-Speed USB) compatibility of your personal computer, contact the manufacturer of the personal computer.
- 7) 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.
- 8) 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.
- 9) 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.
- 10) Remainings
Remainings on the Paper tab shows the remainings of the ink ribbon by a bar, by reading information from the printer when the Paper tab is displayed. The correct information may not be acquired during printing.

- 11)Connection with more than one printer
When multiple CP-D70DW series printers are connected to one personal computer, the “Add New Hardware Wizard” will be displayed and installation of the printer drivers will be carried out repeatedly for each connected printers. The same number of printer drivers as that of connected printers are installed.
- 12)Errors during printing
When an error occurs during printing, it may not be displayed on the monitor. To resume printing, check the indicator on the front of the printer and take the countermeasure. For the indication by the indicator of the printer and the countermeasures, see the operation manual of the printer.
- 13)Setting of the color matching
Even if the color matching is set to ON by the printer driver, color matching may not be available with some applications.
With some applications, color matching is effective even if it is set to OFF.
- 14)When you print and “Parameter’s value is invalid.” is displayed, perform the following operations.
a) Select “Device Manager” from “Hardware” tab of “System Properties.”
b) Select “Scan for hardware changes.”
- 15)When you use Windows Vista, printing may not be performed properly if you reboot the personal computer or wake it up from the suspend mode with the print jobs stored in the print spooler. In this case, delete the print job(s) in the spooler dialog and print again.
- 16)When you use Windows 7, install the printer driver first, and then connect the printer to the personal computer.
- 17)When the printer is in standby status, the printer driver may not be installed correctly. Install the printer driver while the printer is activated.
- 18)You can set the number of printouts from 1 to 450 in the Paper dialog, however, the maximum number of printouts per one paper roll varies depending on the paper size.
- 19)Uninstallation and reinstallation of the printer driver
When you use the printer in Windows Vista or Windows 7, confirm that the printer is not set as default printer and then uninstall the printer driver.
When you uninstall and then reinstall the printer driver in Windows Vista or Windows 7, restart the computer after the reinstallation is completed.

Operating directions for customer’s purpose

1. When you want to adjust the color of the print image.
(Note that the effects are invalid on the display even if you make following setting.)
- 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 print picture is out of focus (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” of the color adjustment dialog.
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 a mouse, the density of the entire image can be adjusted to the arbitrary Gamma curve.
The density becomes high (dark) when you decrease the output value compared with the input value.
The density becomes low (bright) when you increase the output value compared with the input value.

2. Making the ICC profile

Refer to the following when you make a suitable ICC profile for the system to be used and apply it to the printer driver.

- 1) Set the printer driver as follows when you print the basic color chart for making ICC profile using the printer.

Delete the ICC profile set on the “Color control” tab of the printer property.

Set the “Color matching” on the option tab of the printer driver to OFF.

Set the “Color conversion” on the option tab of the printer driver to “none”.

Set the “Gamma” on the option tab of the printer driver to a desired setting.

- 2) Add the new ICC profile using the “Color control” tab of the printer property.

3. To adjust the gray balance in the low gray levels, use “Color correction” on the option tab.

To weaken the Yellow tone :Increase the “B” value.

To weaken the Magenta tone :Increase the “G” value.

To weaken the Cyan tone :Increase the “R” value.

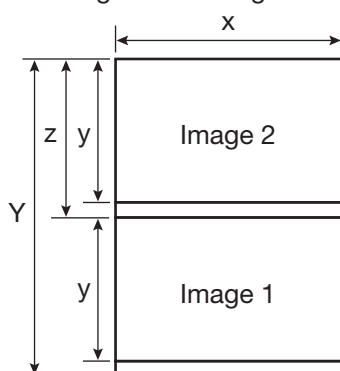
To weaken the Red tone :Decrease the “R” value.

To weaken the Green tone :Decrease the “G” value.

To weaken the Blue tone :Decrease the “B” value.

4. When “10x15x2 Type 1” is selected in “Paper size”

Lay out the image 1 and image 2 as following and print them.



| | Print dots |
|---|------------|
| Y | 2730 |
| x | 1864 |
| y | 1228 |
| z | 1266 |

5. When “10x15x2 Type 2” is selected in “Paper size”

When multiple images are selected in “Picture and Fax Viewer”, etc., the images are printed in 10x15 (4x6”) size.

When the number of pages or copies is odd, the last print of 10x15 (4x6”) 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.