

Color Laser Printer *Operating Instructions*

Model No. **KX-CL500 / KX-CL510**

In addition to printing in PCL, the KX-CL510 also supports printing in PostScript for Microsoft® Windows® operating system and Macintosh.

The Operating Instructions consist of 3 files.

- **Print.pdf**
- **Mainte.pdf**
- **Network.pdf**

Clicking on their names or icons below can open these files. The printer's features are described on the following pages of this file.



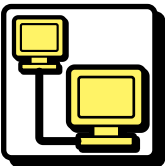
Settings and Printing (Print.pdf)

This section contains information on media, printer panel, printer drivers and hard disk drive utility.



Maintenance and Specifications (Mainte.pdf)

This section contains information on cleaning the printer, replacing supplies, clearing jams, troubleshooting, error messages, repacking and specifications of the printer, media to be used and interface.



Network (Network.pdf)

This section contains information on configuring the printer for use within the network.

Please carefully read the Operating Instructions before operating. If you need to see the Setup Guide, click **Setup Guide**.

Keep the printer CD-ROM in a safe place for future reference. Do not expose the CD-ROM to direct sunlight or extreme heat and do not scratch or smudge the surface of the CD-ROM.



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Features

Thank you for purchasing the Panasonic KX-CL500 / KX-CL510 Color Laser Printer. We are sure it will meet your printing needs and give you many years of productive and efficient use.

Printing in PCL and PostScript (KX-CL510 only)

In addition to printing in PCL, KX-CL510 provides printing in PostScript for Microsoft® Windows® operating system and Macintosh.

Rapid Start / Fast Printing

Panasonic's induction heating technology enables the KX-CL500 / KX-CL510 to have fast warm-up and first page out time.

Print speed is up to 17* ppm (pages per minute) in color and up to 21 ppm in monochrome (Letter size plain paper, simplex printing).

[Print speed is up to 16 ppm (pages per minute) in color and up to 20 ppm in monochrome (A4 size plain paper, simplex printing).]

*Actual print speed is 16.9 ppm.

Bi-directional Parallel / USB / Network Interface

Enables communication between the computer and the printer using the parallel (Windows only), USB or network interface (100Base-TX and 10Base-T).

Paper handling

- **Media tray** (universal cassette):

Holds up to 530 sheets of 75 g/m² (20 lb.) paper.

- **Multi-purpose Tray:**

Coated paper, Transparency, Label, Thick Paper/Card or Envelope can be loaded.

Color Management

Utilizes ICM (Microsoft® Windows® operating system) or ColorSync (Macintosh Operating System) profiles to perform automatic color matching between the monitor and the printer. Also provides manual adjustment capabilities to modify the color appearance. For the schema for color printing, refer to **“Schema for Color Printing” on page 7**.

Automatic Duplex Printing (with Automatic Duplex Unit option installed)

- see **page 183, 261** or **280** in “Settings and Printing”

Automatically prints your document on both sides of the paper.

(Continued)

Job Spool Feature (Windows only)

- using the printer panel: see [page 30](#), [31](#) or [32](#) in “Settings and Printing”
- using the HDD Utility: see [page 217](#), [220](#) or [221](#) in “Settings and Printing”

Allows print jobs to be saved to the printer’s internal hard drive with printer drivers in Windows. With this feature users can check a document prior to printing multiple copies (Check and Print), save frequently used documents for instantaneous printing (Memory Print), and save confidential documents requiring the user to enter a password to begin the printing process (Confidential Print - PCL printer driver only).

Versatile Print Feature

- **Watermark** (see [page 113](#), [167](#) or [185](#) in “Settings and Printing”)
Overlaps a watermark (Confidential, Draft, etc.) over any document.
- **Overlay** (see [page 117](#) in “Settings and Printing”)
Overlaps an overlay data (image or characters) over any document.
- **Pages per Sheet** (see [page 104](#), [160](#), [173](#), [176](#), [252](#) or [270](#) in “Settings and Printing”)
Prints 2 - 16 pages on a single sheet of paper to save paper.
- **Scale** (see [page 109](#), [160](#), [173](#), [177](#), [246](#) or [266](#) in “Settings and Printing”)
Enlarges or reduces the output of page.
- **Collate** (see [page 126](#), [162](#), [173](#), [177](#), [250](#), [254](#), [269](#) or [277](#) in “Settings and Printing”)
Prints copies of the entire document a number of times from the 1st page to the last page.
- **Poster** (see [page 111](#) in “Settings and Printing”)
Prints your document dividing a large size image into several pages.
- **Toner Save** (see [page 129](#), [162](#), [173](#), [177](#), [254](#) or [275](#) in “Settings and Printing”)
Reduces the amount of toner used when printing.

Status Display

- see [page 187](#) or [282](#) in “Settings and Printing”

A window displayed on the user’s monitor provides useful information on the printer’s status while printing a job. This includes error messages, recovery information, remaining supplies, loaded paper, color calibration, and network connectivity. In addition, remote notification of error conditions and low supplies is provided.

(Continued)

HDD Utility

- see [page 206](#) in “Settings and Printing”

Controls spooled print job in the Hard Disk Drive (HDD) of the printer or maintains the HDD from your computer.

Web Administrative Tool

- see [page 8](#) in “Network”

Manages the device by showing the status of the device connected to the network and changing its configuration, therefore, an administrator can manage a printer using this tool.

Printer’s Web Server (Embedded Web Server)

- see [page 139](#) in “Network”

Enables remote administrator or service technician to review printer status and set network configuration via the printer’s Internet home page.

Network Setup Tool

- see [page 7](#) in “Network”

Software that enables network administrator to setup, configure and monitor all KX-CL500 and KX-CL510 printers attached to the network.

Power Save

- see [page 29](#) or [45](#) in “Settings and Printing”

Saves energy while the printer is idle.

Schema for Color Printing

The Concept of “color”

■ Hue

The qualitative aspect of color we generally perceive, such as “red” or “blue”.

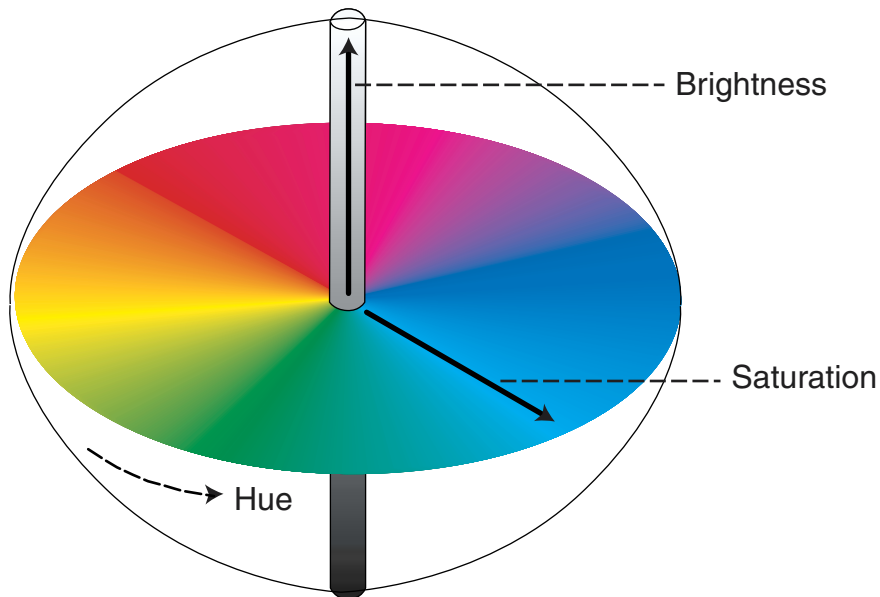
■ Saturation

The vividness of the color.

■ Brightness

The brightness of the color. A higher brightness provides a lighter image and a lower brightness provides a darker image.

The following illustration provides a graphical representation of these three concepts. Moving along the circumference and radius shows the change in hue and saturation respectively and the height shows the brightness of the color.

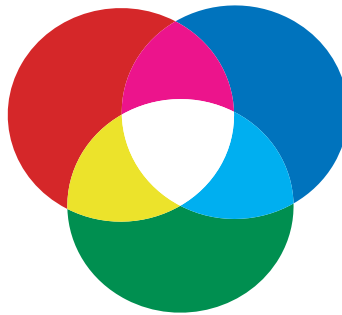


Method for Creating Colors

There are two methods of creating a range of colors. Those are called “additive color system” and “subtractive color system”.

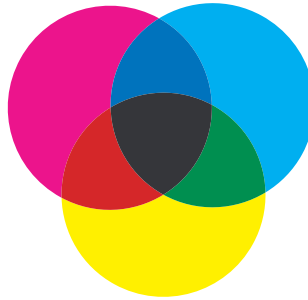
■ Additive color system (This system is used by computer monitors.)

This system creates a range of colors by combining varying amounts of Red, Green, and Blue (RGB) light, which is generally used in the color monitor. Adding the maximum amount of red, green, and blue light available creates white, on the contrary, black occurs where all these three colors are absent. Other colors can be created by combining varying amounts of these additive primaries (RGB).



■ Subtractive color system (This system is used by color printers.)

This system produces color by combining colorants such as inks, toners or paint on media, which is generally used in color printing. The printers create the colors by combining the subtractive primaries: Cyan, Magenta, and Yellow. White occurs where no colorant is applied, on the contrary, combining all these three color in theory yields black. However, to produce more solid black, black colorant is added, and consequently color printing uses four process colors: **Cyan, Magenta, Yellow, and blackK (CMYK).**



■ Color capabilities of the color reproduction devices

Color monitors use the additive color system (RGB), and color printers use the subtractive color system (CMYK) to create a range of colors. Because these color reproduction devices use different color systems, some colors that can be displayed on a color monitor cannot be reproduced exactly by the print device. However, using the color matching system (ICM or ColorSync) enables more accurate representation of the original color by assigning the best color possible.