Panasonic®

Operating Instructions

Color Laser Printer

Model No. KX-CL400 / KX-CL600

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

In addition to printing in PCL, the printer with the Upgrade Kit also supports printing in PostScript® for Microsoft® Windows® operating systems and Macintosh.

Setup Guide (Setup.pdf)

This Setup Guide contains information on setting up your printer and becoming familiar with its features. First read this guide to setup the printer.

Installation (Install.pdf)

This section contains information on installing printer driver and utilities. When setting up the printer at first, read this section with the above Setup Guide.

Settings and Printing (Print.pdf)

This section contains detailed information on using tray, printer panel, printer drivers, and utilities. Printing with the Upgrade Kit is also described in this section.

Maintenance and Specifications (Mainte.pdf)

This section contains information on replacing supplies, cleaning the printer, clearing a jam, troubleshooting, repacking and specifications of this printer.

Network (Network.pdf)

This section contains information on configuring the printer for use within a network environment. Network utilities are also described in this section.

Print Count Manager (PCM.pdf)

This section contains information on a utility for tracking and managing the printing volume of user groups (how many color and monochrome printouts).

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.

As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.
(ENERGY STAR and the ENERGY STAR certification mark are registered US marks.)

Adobe, the Adobe logo, Acrobat, the Acrobat logo, Reader, Adobe Type Manager, ATM, PostScript, PostScript 3 and the PostScript 3 logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Scalable type outlines are licensed from Agfa Monotype Corporation. CG, Intellifont, MicroType and Universal Font Scaling Technology (UFST) are trademarks of Agfa Monotype Corporation and may be registered in some jurisdictions.

- Agfa® and the Agfa rhombus are registered trademarks of Agfa-Gevaert N.V. registered in the U.S. Patent and Trademark Office and may be registered in other jurisdictions. Monotype® is a registered trademark of AMT registered in the U.S. Patent and Trademark Office and may be registered in other jurisdictions. ColorTune® is a registered trademark of Agfa-Gevaert N.V. registered in the U.S. Patent and Trademark Office and may be registered in other jurisdictions. Profile Tool Kit™, Profile Studio™ and Profile Optimizer™ are trademarks of AMT and may be registered in certain jurisdictions.
- Microsoft, Windows, Windows NT and Windows Server are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Apple, AppleTalk, ColorSync, LaserWriter, Mac, Mac OS, Macintosh, Rendezvous and TrueType are trademarks of Apple Computer, Inc.
- Netscape and Netscape Navigator are registered trademarks of Netscape Communications Corporation in the United States and other countries.
- Intel, Pentium and Pentium II are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- ITC Avant Garde Gothic, ITC Zapf Chancery and ITC Zapf Dingbats are trademarks of International Typeface Corporation.
- Hewlett-Packard, HP, HP-GL, HP-UX, JetDirect, PCL and Web JetAdmin are trademarks of Hewlett-Packard Company.
- Novell and NetWare are registered trademarks of Novell, Inc., in the United States and other countries.
- IPX and IPX/SPX are trademarks of Novell, Inc.
- Avery and all other related brands and product names are trademarks of Avery Dennison Corporation.
- UNIX is a trademark of X/Open Company Ltd.
- 3M and 3M logo are trademarks or registered trademarks of 3M Company.
- Sun, Sun Microsystems, the Sun Logo and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

Microsoft® Windows® operating system (hereafter referred to as Windows)
Microsoft® Windows® 98 operating system (hereafter referred to as Windows 98)
Microsoft® Windows® 98 Second Edition operating system (hereafter referred to as Windows 98 SE)
Microsoft® Windows® Millennium Edition operating system (hereafter referred to as Windows Me)
Microsoft® Windows NT® operating system Version 4.0 (hereafter referred to as Windows NT 4.0)
Microsoft® Windows® 2000 operating system (hereafter referred to as Windows 2000)
Microsoft® Windows® XP operating system (hereafter referred to as Windows XP)
Microsoft® Windows Server^{TM} 2003 operating system (hereafter referred to as Windows Server 2003)

Features

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

■ Fast Printing

Up to 18[*1] ppm (Letter with KX-CL400) or 22[*1] ppm (Letter with KX-CL600) in Color and Monochrome (standard quality, simplex print with standard media tray).

[*1] Measured by Panasonic's method.

■ Automatic Duplex Printing (KX-CL400: option / KX-CL600: standard)

The printers are designed to accommodate an automatic duplex unit, enabling effortless double-sided printing. Cost effective and speedy, double-sided prints are output at an incredible 16.9[*1] ppm (Letter with KX-CL400) or 20.9[*1] ppm (Letter with KX-CL600) in color and monochrome. With Panasonic's advanced technology, the printer's speed remains the same even when printing two-sided documents.

[*1] Measured by Panasonic's method.

■ Equipped with Network (100 Base-TX / 10 Base-T), Parallel (IEEE 1284 (ECP)), and USB 2.0 (Full Speed) Interface

The printers can merge into any office environment where they can be utilized as personal printers or shared via the Built-in Ethernet (100 Base-TX / 10 Base-T) internal network port. Both printers are also equipped with IEEE 1284 Bi-directional parallel and USB 2.0 (Full Speed) interfaces.

■ Max. paper capacity 1,690 sheets with two(2) optional Paper Feeders (20 lb. paper)

The printers provide flexible paper handling. Both printers equip a standard 530-sheet paper cassette and a 100-sheet multi-purpose tray, and are expandable to 1,690 sheets with the additional optional Paper Feeders.

■ High yield, easy-to-replace consumables

Panasonic consumables provide optimum output, giving you top performance and prolonging the life of your machine. Toner cartridges are easily replaced from the top of the printer.

■ Economical and Environmental

- **Saves energy while the printer is idle (ENERGY STAR$^{®}$ compliant).**
- **Toner Save Mode**

■ Versatile Print Feature

- **Watermark**
Prints your choice of text in the specified font superimposed on documents.

- **Overlay**
Prints your choice of overlay data (images or text) superimposed on documents.

- **Pages per Sheet**
Save paper by printing several pages on a single sheet.

- **Booklet**
After printing, fold sheets in half to create booklets. A convenient feature for simple booklets.

- **Fit to Output Paper Size**
Scales source documents to fit the specified paper.

- **Zoom**
Reduces or enlarges documents by the specified magnification.

- **Poster**
Enlarges single-page documents for printing on several sheets. Assembles the printed documents to make posters.

- **Collate**
Prints copies of the entire document a number of times from the 1st page to the last page.

- **Toner Save**
Conserves toner. The overall effect is lighter, so this feature is recommended for test printing or producing documents for which appearance is not critical.

- **Confidential Printing (with Hard Disk Drive)**
By installing the hard disk drive, you can preserve the confidentiality of your documents by enabling the secure printing capabilities of the printer. Documents from your Windows applications can be password-protected and then printed by entering the password at the front panel of the printer or HDD utility.

■ Effective Utilities

- **Device Monitor**
  Device Monitor is a utility that displays information about connected devices.

- **HDD Utility (with Hard Disk Drive)**
  HDD Utility allows you to manage spooled print jobs in the printer's hard disk from your computer.

- **Web Administrative Tool**
  Web Administrative Tool is a server application tool for managing information on multiple printer devices. Clients can check and edit device information via a browser.

- **Embedded Web Launcher**
  Embedded Web Launcher is a utility for displaying the device's embedded web page on browsers.

- **Network Setup Tool**
  Network Setup Tool is a utility for configuring the printer's network settings.

■ Additional Features

If you install the Upgrade Kit, the following features are available.

- **PostScript printing**
  PostScript printing is available in Windows and Macintosh.

- **Direct Printing System**
  Direct Printing System is a utility for sending PDF files directly to the printer bypassing the printer driver.

Schema for Color Printing

The Concept of "color"

■ Hue

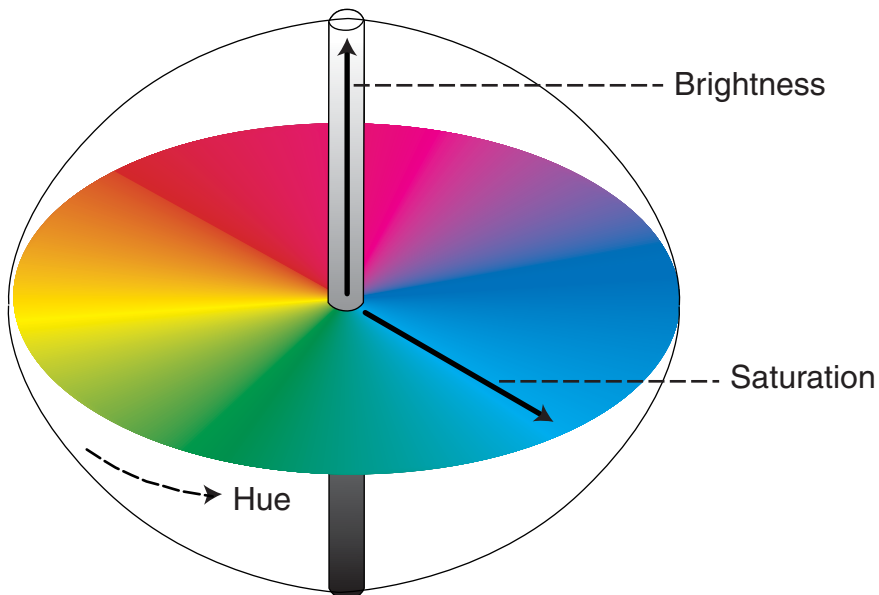The qualitative aspect of color we generally perceive, such as "red" or "blue".

■ 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 brightness of the color.
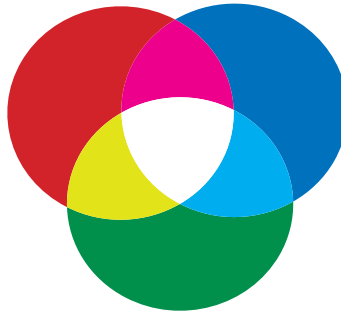
Method for Creating Colors

Two methods of creating a range of colors exist, called, an "additive color system" and "subtractive color system".
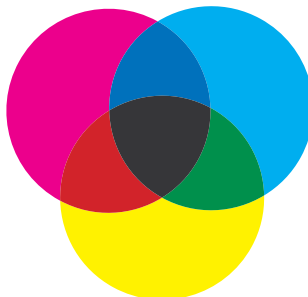
■ Additive color system (This system is used by computer monitors.)

This system creates a range of colors by combining varying amounts of **R**ed, **G**reen, and **B**lue (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, where printers create colors by combining the subtractive primaries: **C**yan, **M**agenta, and **Y**ellow. 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: **C**yan, **M**agenta, **Y**ellow, and blac**K** (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.