

Программное обеспечение SpectraMagic, PaperManager Технические характеристики

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SpectraMagic™ DX

SpectraMagic **DX** is a color measurement software package that can be used to interface with Konica Minolta's newest measurement instruments CM-25cG and CM-M6 and provides easy usage for the analysis of color and color difference with a convenient diagnosis function.



Introduction

The successor of the SpectraMagic™NX, SpectraMagic™DX, is a colour measurement and control software suitable for almost any industry such as Plastics, Paint & Coatings, Cosmetics, etc.

Whether your colour control involves incoming raw materials, in process production or outbound colour critical goods and materials, SpectraMagic™DX makes it easy to inspect and control colour.

While in principal keeping the look&feel of SpectraMagic™NX, the new design of the SpectraMagic™DX user interface enhances working experience and makes using the software even simpler.

Utilize pre-defined screen templates for Pass/Fail assessment, statistical process control, or R&D analysis. SpectraMagic™DX helps you choose just what's right for you.

SpectraMagic™DX connects to Konica Minolta's portable spectrophotometers (except CM-512m3A) and is suitable for all up to date Windows OS systems.

Features

Requirements in screen layouts differ by application, from simple Pass/Fail assessment or statistic process control to detailed analysis for R&D work. SpectraMagic DX comes with several pre-defined templates to choose from, or you can create your own screen layout suiting your needs and application with total freedom and flexibility.

Each graph type as well as the data list can be scaled to the desired size with total ease.

Sophisticated QC Applications

Target data of one master target (primary target) can be associated with two or more working targets (regular

secondary targets). This allows for sophisticated QC applications such as checking for colour differences between the regular targets and master target simultaneously. Or, the colour differences of an entire product can be managed in sections by comparing the differences from the target colour of each section.

Comprehensive graphs and colour difference assessments

SpectraMagic DX helps you to make colour quality control easy and comprehensive at once. You can choose from several graphs together with the latest Pass/Fail colour difference assessments equations, such as CIE 1994 or CIE DE2000 and several industry related indices. Tolerances, both in box or elliptical form can be automatically calculated or manually adjusted to approved standards.

Furthermore, SpectraMagic DX features a "User Index" function that allows you to configure customized colour equations to meet industry-specific requirements for colour evaluation.

An additional feature that makes QC with SpectraMagic DX easy and fast is “Auto Target” to automatically choose the correct target for comparisons after a measurement was taken.

Diagnosis functionality for easy instrument performance checks

Not only does SpectraMagic DX help you to control colour quality of your products but also to control the performance of your instruments – the most critical part in any quality workflow.

With the new Diagnosis function, it becomes easy to check the performance of your instruments – check Repeatability, Reproducibility or Light Source level.

All checks can be setup by an administrator as projects to be executed by operators on a daily or frequent basis.

A user-friendly navigation helps the user to diagnose the instruments easily by displaying text and illustrations which are changed by a connecting an instrument, while trend graphs help to monitor performance and initiate countermeasures before the condition of your instrument declines.

Specifications

System Requirements

OS	Windows® 7 Professional 32-bit, 64-bit Windows® 8.1 Professional 32-bit, 64-bit Windows® 10 Professional 32-bit, 64-bit Note: the hardware of the computer system to be used must meet or exceed the greater of the recommended system requirements for the compatible OS being used or the following specifications!
Supported languages	English, French, German, Italian, Polish, Portuguese, Spanish, Russian, Turkish, traditional and simplified Chinese, Japanese
CPU	Intel® Core i5 2.7GHz or higher (recommended)
Memory	At least 2 GB (4GB or more recommended)

Hard disk	20GB of available hard disk space At least 10GB of available disk space is required on the system drive (drive where the OS is installed) for the database
Display	Display hardware capable of displaying 1.280 x 768 / 16 color or better
Other	Electronic license in several configurations available USB port required for connection to instrument
Compatible instruments	CM-M6

Features

Italic: Professional Edition ONLY

Colour space	CIELAB, CIELCH, Lab99, LCh99, Hunter LAB, , XYZ, Yxy, $L^*u'v'$, $L^*u^*v^*$ (and their color differences), Munsell C, Munsell D65
Index	MI, Color Assessment, Gloss (CM-25cG), FF (CM-M6), WIE (CIE1982, ASTM E313-73, ASTM E313-98, <i>Berger</i>, Hunter, <i>Taube</i>, <i>Stensby</i>), Tint (CIE1982, ASTM E313-98), YI (ASTM E313-73, ASTM E313-98, ASTM D1925, DIN 6167), WB (ASTM E313-73), <i>Opacity</i> (ISO 2471), TAPPI T425 (89% White Plate), Haze (ASTM D1003-97) (and their differences), <i>User Equations</i>, <i>Standard Depth</i> (ISO 105.A06), <i>Brightness</i> (TAPPI T452, ISO 2470), <i>Density</i> (<i>Status A</i>, <i>Status T</i>), <i>Dominant Wavelength</i>, <i>Excitation Purity</i>, RXRYRZ, <i>Shade Sorting 555</i>, <i>Strength</i> (<i>Tristimulus XYZ</i>, <i>Pseudo Tristimulus XYZ</i>), <i>Staining Degree</i> (ISO 105.A04E), NC#, NC# Grade, Ns, Ns Grade, Grey Scale (ISO 105.A05), Grey Scale Rating (ISO 105.A05), K/S <i>Strength</i> (<i>Apparent</i> (ΔE^*ab, ΔL^*, ΔC^*, ΔH^*, Δa^*, Δb^*), <i>Maximum Absorption</i>, <i>Total Wavelength</i>, <i>User Wavelength</i>) Note on Haze (ASTM D1003-97): As some instrument types may not satisfy the exact definitions of ASTM D1003-97 in terms of illumination/observation, the displayed values are for relative usage only
Colour difference equation	ΔE^*ab (CIE1976), $\Delta E94$ (CIE1994) and each component of lightness, saturation and hue, $\Delta E00$ (CIE2000), and each component of lightness, saturation and hue, $\Delta E99$ (DIN99), ΔE (Hunter), CMC (<i>l:c</i>) and each component of lightness, saturation and hue, FMC-2, NBS100, NBS200, $\Delta E(\text{degree})(\text{DIN 6175-2})$, $\Delta E_p(\text{degree})(\text{DIN 6175-2})$, AUDI2000, DE DIN99o
Observer	2° or 10° Colorimetric Standard Observer
Illuminants	A, C, D50, D55, D65, D75, F2, F6, F7, F8, F10, F11, F12, U50, ID50, ID65
Graph display	Spectral graph (reflectance, transmittance, K/S, <i>Absorbance and its differences</i>), CIELAB absolute value, Δ CIELAB (color differences and MI), HunterLAB absolute value, Δ HunterLAB (color differences), Trend Chart of each color space and color difference formula value, Pseudo Color
Instrument control	Measurement/Calibration: Automatic averaging measurement: 2 to 30 measurements Manual averaging measurements: user determined number of times (standard deviation and average for the color space selected are displayed) Remote measurement List display/reading of sample/target data stored in instrument memory Writing of target data to instrument memory

Instrument diagnosis	Applicable instruments: CM-25cG and CM-M6 Checked characteristics: Repeatability, reproducibility, lamp output (CM-25cG)
Target	Target data can be registered; main targets and working targets under main targets can be used Manual input of colorimetric or spectral data possible
Data list	Listing of target data and sample data Editing (delete, sort, average, copy&paste); display of Pass/Fail-Ratio; <i>Visual Judgement result input function</i> ; <i>Additional Data information inputting/listing function</i>
External I/O	Importing/Exporting of data file(s) in original formats (extension: mesx) Importing/Exporting of template file(s) in original formats (extension: mtpx) Importing of SpectraMagic NX data files and templates Importing/Exporting of Data in Text format Exporting Data in XML, CSV or PDF format Copy to Clipboard
Screen display	Number of files that can be opened simultaneously: 10 Number of files that can be stored in a file: 10.000 Detailed instrument status window Tutorial "Precise Color Communication"

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SpectraMagic™NX

SpectraMagic **NX** is a color measurement software package that can be used to interface with Konica Minolta instruments and provide extended reporting and analysis of color and color difference. The user has full control of customisation of templates and reports.



Introduction

SpectraMagic™NX is a colour measurement and control software suitable for almost any industry such as, Food, Plastics, Paint & Coatings, Cosmetics, Pharmaceuticals, Textiles etc.

Whether your colour control involves incoming raw materials, in process production or outbound colour critical goods and materials, SpectraMagic™NX makes it easy to inspect and control colour.

Utilize pre-defined screen templates for Pass/Fail assessment, statistical process control, or R&D analysis. SpectraMagic™NX helps you choose just what's right for you.

SpectraMagic NX can be connected to all Konica Minolta Spectrophotometer and Chroma-Meter models and is suitable for all up to date Windows OS systems.

Features

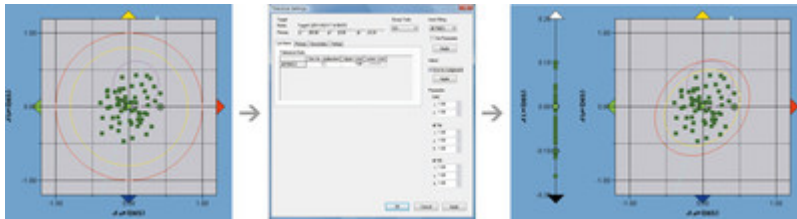
Requirements in screen layouts differ by application, from simple Pass/Fail assessment or statistic process control to detailed analysis for R&D work. SpectraMagic™NX comes with several pre-defined templates to choose from, or you can create your own screen layout suiting your needs and application with total freedom and flexibility. Each graph type (Colour, Spectral, 2D/3D, Colour-Difference or Trend) as well as the data list can be scaled to the desired size with total ease.



Sophisticated QC Applications

Target data of one master target (primary target) can be associated with two or more working targets (regular secondary targets). This allows for sophisticated QC applications such as checking for colour differences between the regular targets and master target simultaneously. Or, the colour differences of an entire product can be managed in sections by comparing the differences from the target colour of each section.

The minimum ellipse to enclose several samples can be calculated automatically and specified as tolerance. The automatic tolerance setting enables pass/fail judgment using three colour difference equations, CMC(l:c), CIE 1994 and CIE DE2000, which provide results similar to visual evaluation and are being adopted increasingly by companies and organizations.



Comprehensive graphs and colour difference assessments

SpectraMagic™NX helps you to make colour quality control easy and comprehensive at once. You can choose from several graphs together with the latest Pass/Fail colour difference assessments equations, such as CIE 1994 or CIE DE2000 and several industry related indices. Tolerances, both in box or elliptical form can be automatically calculated or manually adjusted to approved standards.

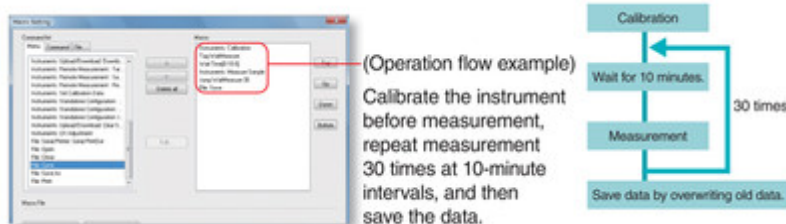
Furthermore, SpectraMagic™NX features a "User Index" function that allows you to configure up to 3 customized colour equations to meet industry-specific requirements for colour evaluation.

An additional feature that makes QC with SpectraMagic™NX easy and fast is "Auto Target" to automatically choose the correct target for comparisons after a measurement was taken

Automated operation by macro function

You can easily register routine operation flows as macros using the menu screen* to automate the operation processes. This is effective for reducing working time as well as preventing operation mistakes.

*Macros cannot be registered by Lite Edition. Macros created using Professional Edition can be also run on Lite Edition.



Specifications

System Requirements

OS	Windows® 8.1 Professional 32-bit, 64-bit Windows® 10 Professional 32-bit, 64-bit (English, Japanese, German, French, Spanish, Italian, traditional and simplified Chinese, Chinese and Hangul versions available) Note: The hardware of the computer system to be used must meet or exceed the recommended system requirements for the compatible OS being used or the following specifications!
CPU	Pentium® III 600 MHz or higher (recommended)
Memory	128 MB (256 MB recommended)
Hard disk	450 MB of available disk space (At least 400 MB of available space is required in the system drive)
Display	Display unit capable showing at least 1024 × 768 dots/256 colours
Other	DVD-ROM drive (required for installation); one free USB port for protection key; one free port (serial port or additional USB port) for connection to instrument when connecting via cable (or USB port for USB Bluetooth® adapter when using a USB Bluetooth® adapter for performing communication with CM-700d or CM-600d via Bluetooth®); Internet Explorer Ver. 5.01 or later

Compatible Instruments

CM-25cG, CM-23d, CM-25d, CM-26d, CM-26dG, CM-5, CR-5, CM-512m3A, CM-600d, CM-700d, CM-2500c, CM-2300d, CM-2500d, CM-2600d, CM-3220, CM-3500d, CM-3600d/A, CM-3610d/A, CM-3630, CM-3700d/A, CR-400, CR-410, FD-5, FD-7, CM-36d, CM-36dG, CM-36dGV

Features

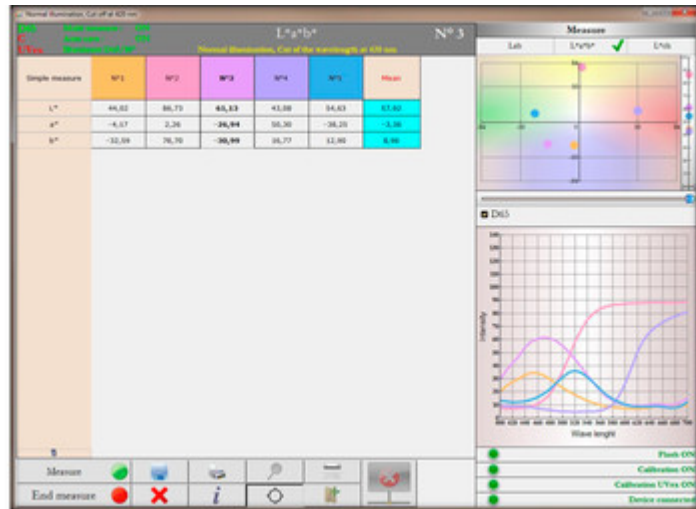
Professional Edition ONLY

Colour space	L*a*b*, L*C*h, Lab99, LCh99, XYZ, Hunter Lab, Yxy, L*u*v', L*u*v* and their color differences; Munsell (C, D65)
Indices	WI (CIE 1982, ASTM E313-73, ASTM E313-96, Hunter, Berger, Taube, Stensby, Ganz), Tint (CIE 1982, ASTM E313-96, Ganz), YI (ASTM D1925-70, ASTM E313-73, ASTM E313-96, DIN6167), WB (ASTM E313-73), Standard depth (ISO 105.A06), Brightness (TAPPI, ISO2470), Opacity (ISO 2471, TAPPI T425 89% White plate), Haze (ASTM D1003-97)*, Density (Status (ISO 105.A04E), Staining degree rating (ISO 105.A04E), Grey scale (ISO 105.A05), Strength, Pseudo strength, K/S strength (Apparent ΔE^*_{ab} , ΔL^* , ΔC^* , ΔH^* , Δa^* , b^* , Maximum Absorption, total wavelength, user wavelength) NC#, NC Grade Only when measurement are taken with CM-5 connected: Gardner, Iodine Color Number, Hazen/ APHA, European Pharmacopoeia, US Pharmacopeia *With some instrument types, the illuminating/light-receiving optical system may not satisfy the definition of "Haze" ASTM D1003-97 procedure B. However, this presents no problem as long as the value is used as a relative value.
Colour difference equation	ΔE^*_{ab} (CIE 1976), ΔE^*_{94} (CIE 1994) and each component of lightness, saturation and hue, ΔE_{00} (CIE DE2000) and each component of lightness, saturation and hue, ΔE_{99} (DIN99), ΔE (Hunter), CMC (l:c) and each component of lightness, saturation and hue, FMC-2, NBS 100, NBS 200, ΔE_c (degree)(DIN 6175-2), ΔE_p (degree)(DIN 6175-2)
Observer	2°, 10°

Illuminants	A, C, D ₅₀ , D ₅₅ , D ₆₅ , D ₇₅ , F ₂ , F ₆ , F ₇ , F ₈ , F ₁₀ , F ₁₁ , F ₁₂ , U ₅₀ , ID ₅₀ , ID ₆₅ , User illuminant 1 to 3
Graph display	Spectral reflectance (transmittance) and its difference, K/S and its difference, Absorbance and its difference, L*a*b* absolute value, $\Delta L^*a^*b^*$ (2D/3D color difference distribution, MI), Hunter Lab absolute value, Hunter ΔLab (color difference distribution), xy chromaticity diagram, Trend chart and histogram of each color space and color difference equation, Pseudo color display
Image display	Link between measured value and image data (JPEG or BMP format), Insertion of custom images
Instrument control	Measurement/calibration Automatic average measurement: 1 to 999 measurements Manual average measurement: Any number of measurements (Standard deviation and average value are displayed in the colour space selected during measurement.) Remote measurement (Excluding the CM-3000 Series) Instrument setting Upload of data stored in the instrument (Excluding the CM-3000 Series) List view of data stored in the instrument (Excluding the CM-3000 Series)
Target	Registration of several target colours (Automatic target colour selection), Manual input and registration of colorimetric data by specifying colour space, Target data download to the instrument (Excluding the CM-3000 Series)
Data list	List view and editing of target/measured data (delete, sort, averaging, copy & paste, search, file merge) Link between JPEG images, Display of statistic value and pass/fail ratio Visual judgement result input function, Additional data information inputting/listing function
External I/O	Loading/saving data files in original format (Extension: mes) (Several files can be loaded.) Loading/saving template files in original format (Extension: mtp) (Several files can be loaded.) Saving of data in text format (CSV, TXT), saving of data in XML format, Copy of listed data to the clipboard
Help function	Navigation Display

PaperManager

PaperManager is a dedicated software for production control in the Pulp- & Paper-Industry.



Introduction

PaperManager is a dedicated software for production control in the Pulp- & Paper-Industry, requiring a minimum of operations and thus allows fast quality assessment of any industry related parameters such as CIELAB, Whiteness, Fluorescence, Tint, Opacity and many more.

PaperManager exclusively interfaces the Konica Minolta Spectrophotometer CM-3630 using d:0° geometry in accordance to ISO 2469 and 2470 norms

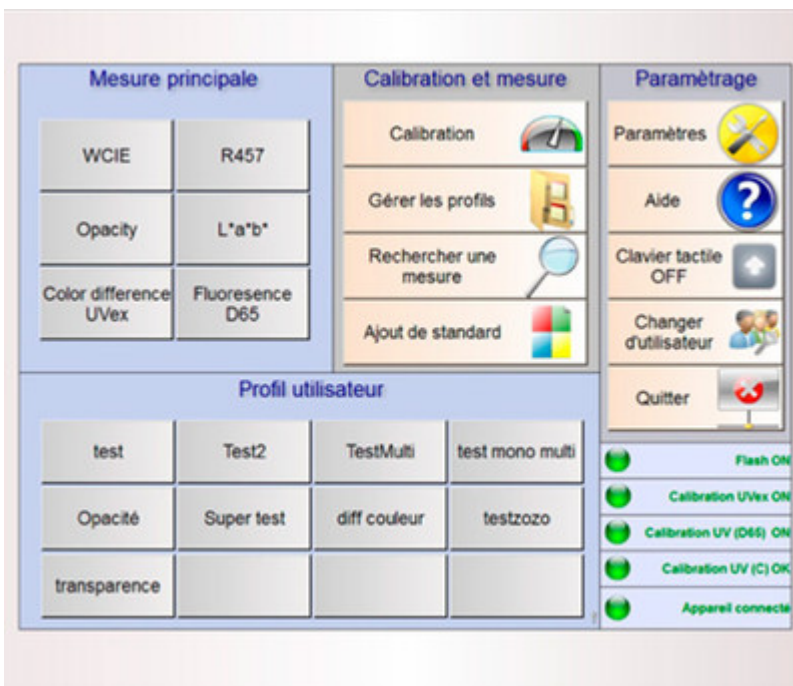
The screen layout can be flexibly restricted to the most important parameters to allow assessment of the main key values at a glance.

Features

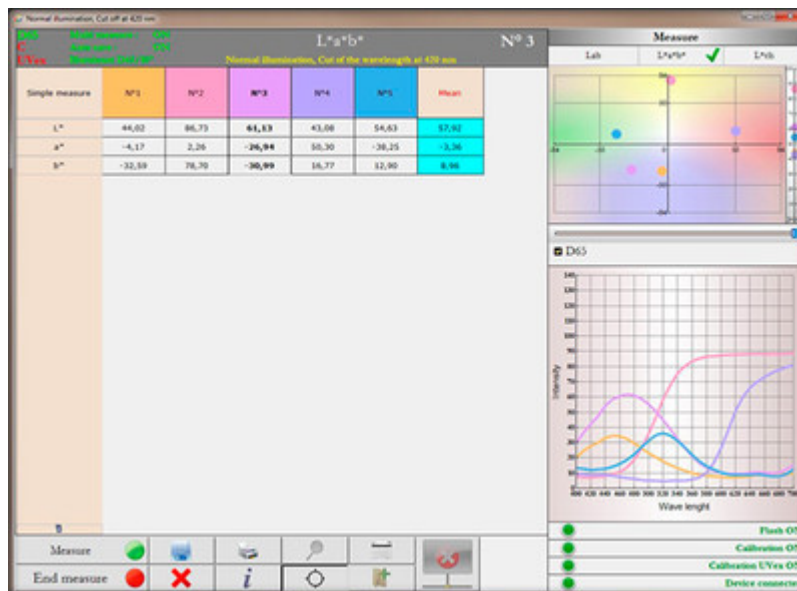
PaperManager was developed by NoviProfibre after years of servicing into the paper industry and is not only using latest software programming features but also taking into consideration the latest standards for colour measurement in the Pulp- and Paper-Industry.

Beside the commonly known colorimetric assessments, PaperManager calculates paper industry specific indices and whiteness values. One highlight is the user-configurable screen design for easy operation and handling for daily routine measurements.

PaperManager allows the user to configure individual production control routines. With this exclusive function, specific production control programs with different control parameters for each production line can be set and stored by the supervisor. The operator himself can fully concentrate on measurements



After each measurement, and without any further operations, the values are displayed in table form on one single screen, together with reflection curves or CIELAB graphics.



Specifications

Main features of PaperManager :

- Dongle-protected
- WINDOWS™ 7, 8 and 10 compliant
- Tactile screen compliant
- Measurements can be stored inside a database
- User-profiles can be generate for easy usage and production management
- UV calibration for CIE Whiteness and Tint, ISO-Brightness and spectral profile data
- Calculates Rx, Ry, Rz, XYZ, Yxy, CIELAB and HunterLab Color values

- CIE Whiteness and Tint as well as ISO-Brightness R457 (TAPPI)
- Measures Opacity and Transparency
- Calculation of absorption and scattering coefficients

PaperManager in combination with a CM-3630 spectrophotometer with d:0 geometry, is a solution in full compliance with the following international standards.

ISO 2469 : Reflectance factor

ISO 2470 : ISO Brightness

ISO 2471 : Opacity

ISO 3688 : Pulps, ISO brightness

ISO 5631-1 : Determination of Colour C/2°

ISO 5631-2 : Determination of Colour D65/10°

ISO 5631-3 : Determination of Colour D50/2°

ISO 9416 : Light scattering and absorption coefficient

ISO 11475 : CIE Whiteness

ISO 11476 : Indoor whiteness

ISO 12625-7 (July 2014): Brightness and Colour D65/10 (outdoor lighting)

ISO 12625-15 (April 2015): Brightness and Colour C/2° (indoor lighting)

INGEDE : Ink Elimination IE700 in %

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