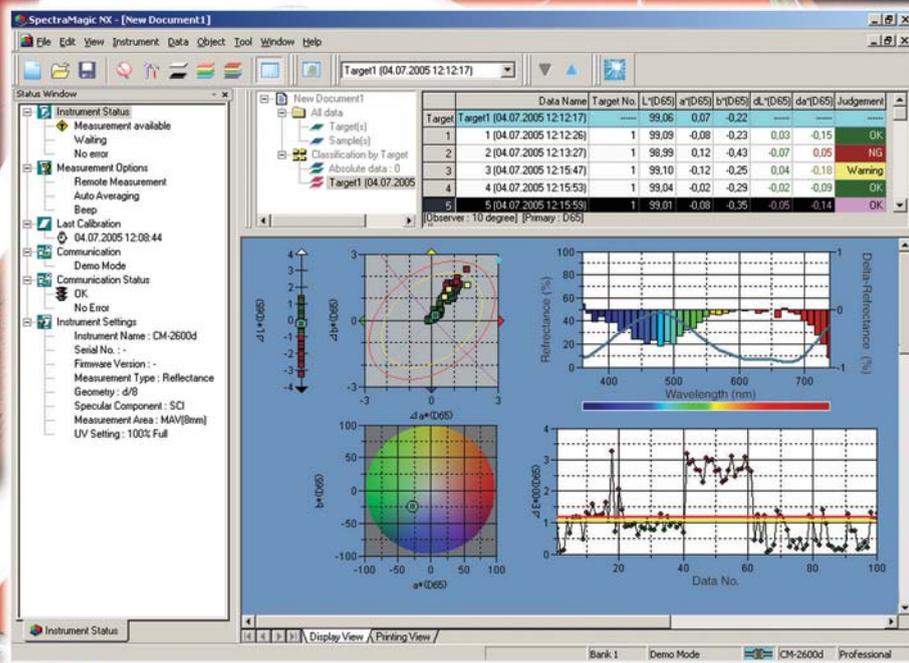




KONICA MINOLTA

Color Data Software CM-S100w SpectraMagic™ NX



Color Quality control like never before:

- Unprecedented ease of use
- Prefixed Templates
- Step by step Navigation help
- Customized Reports including Digital Images
- Includes “Precise Color Communication” tutorial

The essentials of imaging

Total freedom + flexibility that meets your QC needs

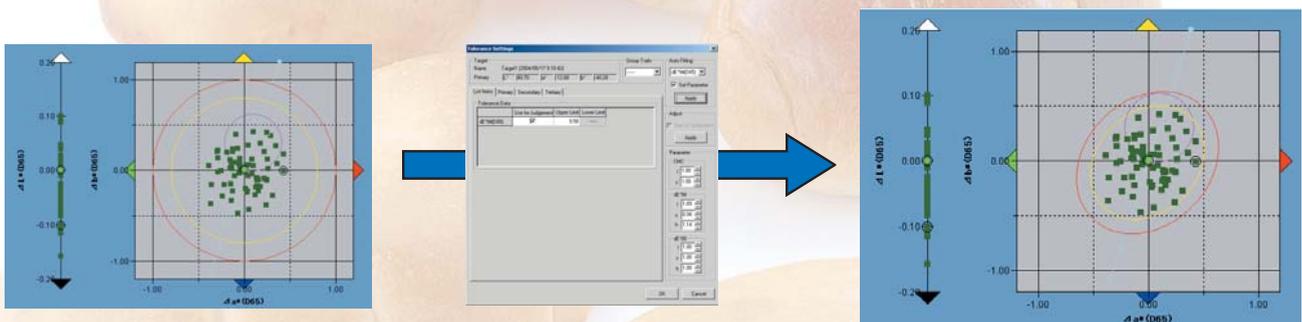


Requirements in screen layouts differ by application, from simple Pass/Fail assessment or statistic process control to detailed analysis for R&D work. SpectraMagic™ NX comes with several pre-defined templates to choose from, or you create your own screen layout suiting your needs and application with total freedom and flexibility. Each graph type (Color, Spectral, 2D/3D Color-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 to two or more working targets (regular secondary targets). This allows for sophisticated QC applications such as checking for color differences between the regular targets and master target simultaneously. Or, it can manage the color differences of an entire product in sections by comparing the differences from the target color of each section.

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

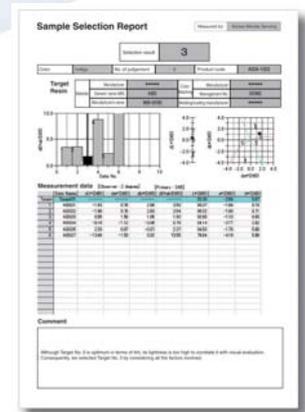
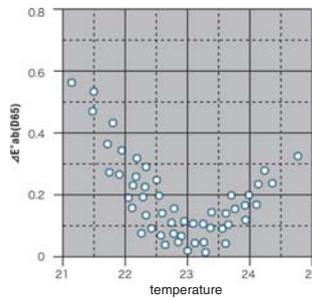


Automatic tolerance setting

Information input for measurement data

Additional items of information can be input for measurement data, which is useful for organizing, sorting, or searching for data. These added items can also be displayed on a graph. Information such as model name, item name, product No., code No., name, order No., color No., production lot No., customer name, product name, visual judgment result (pass/fail input), temperature, humidity, etc. can be input.

$\Delta a^*(D65)$	$\Delta b^*(D65)$	$\Delta E^*_{ab}(D65)$	temperature
-0.06	0.06	0.17	23.1
-0.27	0.18	0.33	23.5
-0.04	0.07	0.17	24.1
-0.18	0.20	0.27	23.5
0.04	0.03	0.12	23.1
-0.14	0.20	0.25	22.9
0.04	0.04	0.11	23.5
-0.16	0.20	0.26	23.6



Printing example of a shipment slip

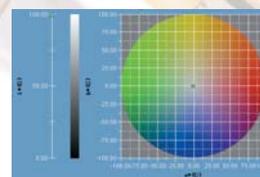
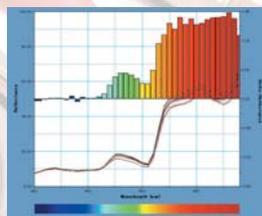
Various printing functions

Like the display view, the printing view can be used to create your own format by placing and editing objects as desired. This function is useful for preparing easy-to-read reports or for filling in shipment slips. Moreover, several pieces of data can be combined and printed on one sheet.

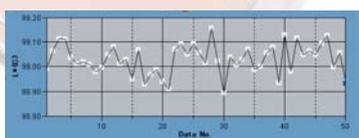
Comprehensive graphs and color difference assessments

SpectraMagic™ NX helps you to make color quality control easy and comprehensive at once. You can choose from several graphs together with the latest Pass/Fail color difference assessment 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 color equations to meet industry-specific requirements for color evaluation. Auto Target is an additional feature that makes QC with SpectraMagic™ NX so easy and fast.

Spectral graph

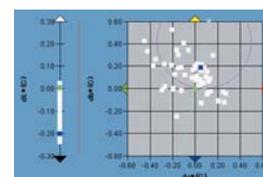


Color graph



Trend graph

Color difference graph



Pre-configured templates for various applications

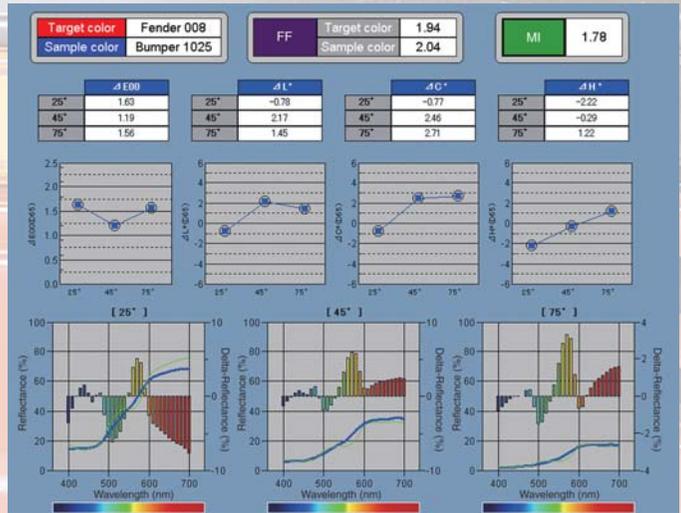
Templates designed for various applications are ready for immediate use.

Support for the CM-512m3 (multi-angle spectrophotometer)

The SpectraMagic™ NX also supports the CM-512m3 multi-angle spectrophotometer, which provides measurement values using three illumination angles with one measurement. The data of the three angles can be displayed simultaneously, and the angle characteristics specific to multi-angle spectrophotometer can be displayed visually with line graphs.

ΔE₀₀ (CIE DE2000) display

It is now possible for display ΔE₀₀ (CIE DE2000). This is an improved color-difference equation based on the L*a*b* color space which provides better correlation between the color difference value and visual evaluation for subtle color differences.



Template sample for the automobile industry

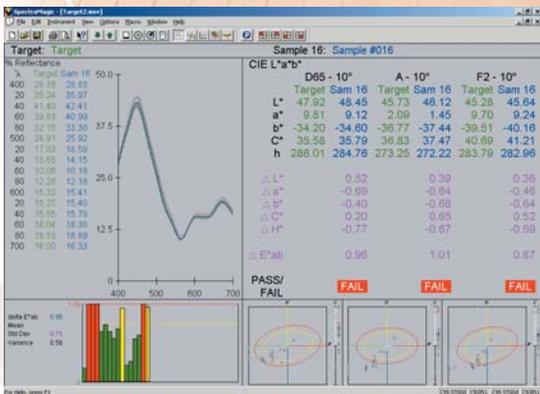
Status window shows Instrument Information at a glance

With SpectraMagic™ NX, all Instrument Information (status, measurement options, last calibration, communication status and instrument settings) can be seen at a glance.

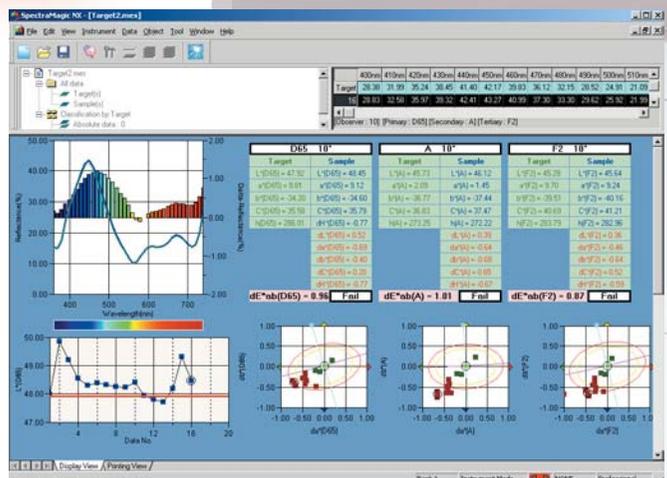
- Instrument Status
 - Measurement available
 - Waiting
 - No error
- Measurement Options
 - Remote Measurement
 - Auto Averaging
 - Beep
- Last Calibration
 - 29.07.2004 22:02:03
- Communication
 - Demo Mode
- Communication Status
 - OK
 - No Error
- Instrument Settings
 - Instrument Name : CM-2600d
 - Serial No. :
 - Firmware Version :
 - Measurement Type : Reflects
 - Geometry : d/8
 - Specular Component : SCI
 - Measurement Area : MAV(8m
 - LUV Setting : 100% Full

Data compatibility with the former SpectraMagic

The SpectraMagic™ NX is data-compatible with the former SpectraMagic™ software. The old data can be used without any treatment.

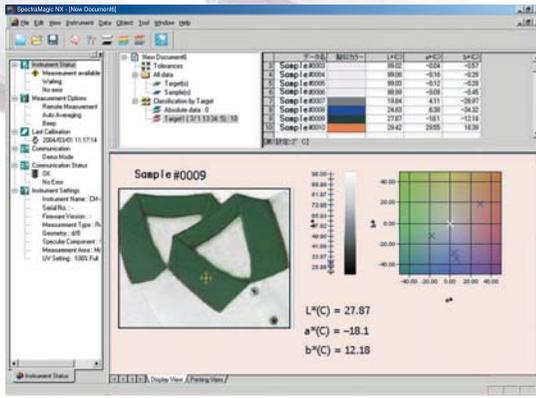


Data displayed with the old SpectraMagic™



Data displayed with the SpectraMagic™ NX

Comprehensive reporting and easy data export



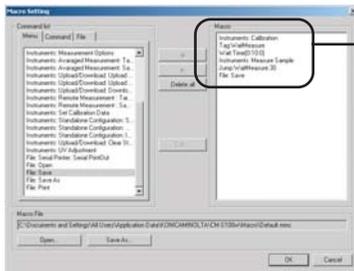
	Data Value	Target	CHK/OK	Judgment	L*(C)	a*(C)	b*(C)	d*(C)	e*(C)
Target1 (3/1 15:32:54)	1	0.20	OK	99.92	0.07	-0.20			
1 (3/1 15:32:26)	1	0.20	OK	99.94	0.08	-0.20	0.12	0.12	0.12
4 (3/1 15:32:26)	1	0.20	NG	99.17	-0.20	0.10	0.26	0.36	0.10
7 (3/1 15:32:26)	1	0.20	OK	99.16	0.13	0.04	0.24	0.20	0.10
8 (3/1 15:32:42)	1	0.20	OK	99.05	0.02	-0.20	0.13	0.08	0.02
9 (3/1 15:32:50)	1	0.20	OK	99.07	-0.13	-0.34	0.15	0.20	0.06
10 (3/1 15:32:50)	1	0.20	OK	99.97	0.06	-0.43	0.05	0.01	0.01
11 (3/1 15:32:40)	1	0.20	OK	99.93	-0.15	-0.40	0.11	0.22	0.12

	A	B	C	D	E	F	G	H	I	J
1	Target1 (3			99.92	0.07	-0.20				
2	1 (3/1 15:	1	0.20	OK	99.01	-0.07	-0.07	0.09	-0.14	0.21
3	2 (3/1 15:	1	0.20	OK	99.11	-0.21	-0.20	0.18	-0.20	-0.01
4	3 (3/1 15:	1	0.20	OK	99.04	-0.17	-0.24	0.12	-0.24	0.04
5	4 (3/1 15:	1	0.20	OK	98.99	-0.17	-0.26	0.07	-0.17	0.02
6	5 (3/1 15:	1	0.20	OK	99.04	-0.05	-0.4	0.12	-0.12	-0.12
7	6 (3/1 15:	1	0.20	NG	99.17	-0.20	-0.11	0.26	-0.36	0.18
8	7 (3/1 15:	1	0.20	OK	99.16	-0.13	0.04	0.24	-0.2	0.32
9	8 (3/1 15:	1	0.20	OK	99.05	0.02	-0.20	0.13	-0.05	0.02
10	9 (3/1 15:	1	0.20	OK	99.07	-0.13	-0.34	0.15	-0.2	-0.06
11	10 (3/1 15:	1	0.20	OK	99.97	0.06	-0.43	0.05	-0.01	-0.15

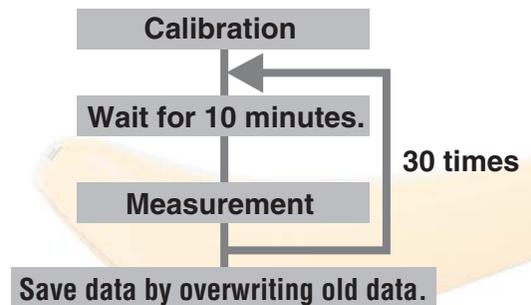
SpectraMagic™ NX allows you to insert digital pictures with the measured data, opening totally new dimensions to color communications with customers. The data list view allows you to swiftly export measurement data into Excel by copy and paste function. Reports as well can be created by the user with total freedom to meet traceable evidence of color consistency demanded by customers. Furthermore, SpectraMagic™ NX can share data within a local area network (LAN) and operates under Windows® 2000 Professional and XP Professional.

Automated operation by macro function

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

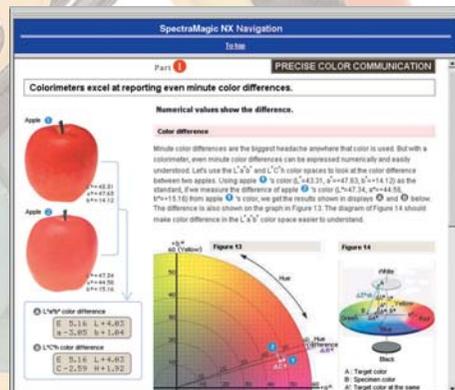


(Operation flow example)
Calibrate the instrument before measurement, repeat measurement 30 times at 10-minute intervals, and then save the data.



Navigation function & Color tutorial for total workflow control

With the exclusive Navigation function, you have total control of the flow of operations with online step-by-step instructions including picture illustrations. This unique feature can be customized by the user according to his needs. The Navigation window of SpectraMagic™ NX also includes a link to the HTML version of "Precise Color Communication" with many illustrations and explanations that contribute to a clearer understanding of basics and technical terms related of color and color measurement technology.



SpectraMagic™ NX Color Data Software

Specifications:

Minimum Computing Requirements

OS	Windows® 2000 Professional SP 4 Windows® XP Professional SP 2, x64 Edition Windows® Vista Business 32bit (x86), 64bit (x64) (English, Japanese, German, French, Spanish, Italian, Traditional Chinese, Simplified Chinese, and Hangul versions For Windows® XP Professional x64 Edition, English and Japanese versions only)
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 x 768 dots/256 colors
Other	CD-ROM drive (required for installation), One free USB port or printer port (for protection key), One free serial port (for instrument), Internet Explorer Ver. 5.01 or later

Compatible Instruments

CM-3700d; CM-3600d; CM-3610d; CM-3630; CM-3500d; CM-700d/600d; CM-2600d/2500d/2500c;
CM-2002; CM-500 Series; CM-512m3; CR-400/410, DP-400; CR-300/CR-200 Series (The CR-300/200
Series can be used only when the main unit is version 3.0 or later and is connected via RS-232C. The unit
cannot be used together with a USB converter.)

Features

Color space	L*a*b*, L*C*h, XYZ, Hunter Lab, Yxy, L*u'v', L*u*v*, Lab99, LCh99, Munsell, and their color differences (excluding Munsell)
Index	MI, 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 T452, ISO2470), Opacity (ISO 2471, TAPPI T425 89% White Plate), Haze (ASTM D1003-97)*, Density (Status A, Status T), Dominant Wavelength, Excitation Purity, RxRyRz, 8 degree gloss value (CM-3600d, CM-2600d/2500d only), user equation, each difference, 555, Strength, Pseudo Strength, Staining degree (ISO 105.A04E), Staining degree rating (ISO 105.A04E), Grey scale (ISO 105.A05), Grey Scale Rating (ISO 105.A05), K/S strength (Apparent (ΔE^*_{ab} , ΔL^* , ΔC^* , ΔH^* , Δa^* , Δb^*), maximum absorption, total wavelength, user wavelength), NC#, NC# Grade, Ns, Ns Grade * With some instrument types, the illuminating/light-receiving optical system may not satisfy the definition of haze (ASTM D1003-97). However, this presents no problem as long as the value is used as a relative value.
Color 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 degree, 10 degree
Illuminants	A, C, D50, D55, D65, D75, F2, F6, F7, F8, F10, F11, F12, U50
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), xy chromaticity diagram, Trend chart and histogram of each color space and color difference equation
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 color space selected during measurement.) Remote measurement (Excluding the CM-3000 Series) Instrument setting (Excluding the user-calibrated UV Adjust) 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 colors (Automatic target color selection), Manual input and registration of colorimetric data by specifying color 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), Link between JPEG images, Display of statistic value and pass/fail ratio
External I/O	Visual judgement result writing function, Additional data information inputting/listing function 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 in the clipboard
Help function	Navigation display
Other	
Screen display	Number of files that can be opened simultaneously: 20 Number of data that can be stored in a file: Target data: 5,000, Measurement data: 5,000 Instrument status details window display, "Precise Color Communication" Tutorial
Operation	Operation is easy thanks to an operation screen with large buttons, use of function-assigned keys instead of a mouse, the Navigation function, and the Macro function.

SAFETY PRECAUTIONS



For correct use and for your safety, be sure to read the instruction manual before using the product.



Certificate No.: YKA 0937154
Registration Date: March 3, 1995



Certificate No.: JQA-E-80027
Registration Date: March 12, 1997

- The specifications and drawings given here are subject to change without prior notice.
- Windows® is a trademark of Microsoft Corporation in the USA and other countries.
- Pentium® is a trademark of Intel Corporation in the USA and other countries.

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<http://konicaminolta.com/instruments/about/network>