x·rite

530
Color Reflection
Spectrodensitometer

The Next Generation Of Color Control
For Your Press Room, Ink Lab or Testing Lab.

The 530's high-performance spectral engine provides the most precise color measurement technology available today. By combining the capabilities of a high-end densitometer, precise colorimeter, and a powerful spectrophotometer, the versatile 530 Spectrodensitometer is a color tool that works at every step in the production process.

Color Control Where You Need It

Get ahold of the powerful X-Rite 530 and you can take command of color anywhere you go. The wide range of color measurement features and rugged, portable design combine to make this new device the best in its class. Use it at press side to measure a variety of common density functions— or take advantage of our EFS™ or News modes to speed your measurement of color control elements. In materials testing, switch to the 530's color functions and verify that special colors and paper values are still in line with customer or shop requirements. View the data, or look at simple graphs that can be viewed directly on the instrument display. In the ink room, use the powerful spectral data along with your ink mixing system to test, formulate or correct ink formulas quickly and accurately.

Simple Color Comparison

For more-than-four-color printing jobs or those with multiple special colors, use our simple color compare function. Found only in X-Rite instruments, it can save you time when evaluating color differences, making you more productive. Just identify your ideal color references using the density, color or paper functions of the 530. Unlike ordinary color measurement devices, the 530 stores the unique spectral identity of up to 24 individual reference colors. Then, during the production run, simply measure any color, in any order, and the 530 smartly shows you the comparative color or density difference, so you can make color-critical decisions and take cost-saving action.

Match Colors Quickly

If you need to match colors against a database of your own references or industry guides such as PANTONE®, the match feature will show you the closest match and the color difference of the closest 16 colors. Over 1400 references may be stored in the instrument at one time. Optional ColorMail® Express software allows you to manage the databases via a PC-compatible computer.

Spectrally Based

All of X-Rite's 500 Series models capture high-resolution spectrophotometric data, which is used as the basis for all of our color and density values. X-Rite's spectral technology produces the highest level of inter-instrument agreement available in densitometers today. This means you can trust X-Rite's 500 Series technology to give you the most accurate, consistent, comparable color measurements from different presses, among suppliers, between customer and the printing facility, and from two or more printing sites.

Large Interactive Display

The 530 boasts a large, crisp graphic display configurable for left- or right-handed operation. This same high-resolution display also features full menu commands in multiple languages, to meet the needs of most any location (including English, French, German, Italian, Portuguese, Spanish, Chinese and Japanese plus additional languages).

Intelligent User Interface

An intuitive key-pad uses universally understood up/down arrow keys and a select key to easily navigate menu items. For efficiency, we also included a "back" key, and an "escape" key, which quickly and easily takes users back to the main menu.

On Target

Another X-Rite first is our unprecedented microspot aperture size that is as small as 1.6mm x 3.2mm. This option makes short work of targeting special-color or density measurements. Just locate a bar code, some solid type, or a graphic element and quickly check the color.

Ergonomic Design

All of our new hand-held instruments apply ergonomic concepts to fit naturally in your hand. The targeting shoe clearly pinpoints the measurement area so you get the right measurement every time.

Rugged Construction

The 500 Series instruments absorb the inevitable bumps of everyday use. The 500 Series carries the tradition of X-Rite's popular 400 Series densitometers, perhaps the most durable instruments in the industry. You will get years of accurate and reliable performance.

User Interface
- Sharp/reversible display
- Left- or right-hand operation
- Interactive menu and key system
- Clear recognition of function when measuring
- Auto color select
- High resolution LCD display
- Multiple language support
- Calibration Alert feature

Security
- Lock out of specified functions
- Lock out of configuration menu
- Security cable (optional)

Density Features
- Density (absolute or minus paper)
- Density Difference (16 reference values)
- Dot Area (Tone Value)
- Dot Gain with triple reference
- Print Contrast
- Apparent Trap
- Hue Error/Grayness
- High-precision data format feature
- Electronic Function Selection™ (EFS)
- News mode
- Selectable User Configuration (US, Euro, NewsBalance, News3-Color)
- Selectable Status Response (T, E, I, A, G, Tx, Ax, Ex, & Hi-Fi)

Color Features
- Lab (CIE or Hunter) •L*u*v* •Yu*v*
- L*C*h° •XYZ •Yxy
- $\Delta E_{(ab)}$, CMC, and CIE'94 tolerancing
- High-precision data format feature
- Color Compare with up to 24 references
- On-screen graph of L*a*b* (actual or difference)
- Match

Spectral Reflectance Features
- Spectral Reflectance Data
- Spectral Reflectance Graph

Material Testing
- TAPPI Brightness
- Paper Color Cast Value
- Paper Statistics Calculations (mean, sigma)

Accessories Provided
- Calibration Reference
- Getting Started Guide
- CD-ROM with complete documentation & training materials
- AC Adapter
- Carrying Case
- RS-232 interface cable kit
- ColorMail® Express
- PANTONE® Digital Color Libraries
- 3 year warranty
  Note: X-Rite calibration references are traceable to the U.S. National Institute of Standards and Technology through Munsell Color Science Laboratory RIT.

Options
- Polarization Filter (not available on 2.0mm or microspot version)
- Ultraviolet Filter
- 2.0mm Aperture (not available with polarized version)
- 6.0mm Aperture
- Microspot Aperture 1.6mm x 3.2mm (available as factory option only, not available with polarized version)
- Security Cable
- X-RiteColor® Master Formulation software
- X-RiteColor® Master Quality Assurance software

Specifications

Measurement Geometry
45°/0° per ANSI, DIN & ISO Standards

Spot Size at Sample
3.4mm (.13in) standard
2.0mm (.078in) optional
6.0mm (.236in) optional
1.6mmH (.063 in.) x 3.2mmW
Micro-Spot (.125 in.)

Light Source
Gas Pressure @ 2856°

Spectral Range
400nm to 700nm

Illuminant Types
A, C, D50, D55, D65, D75, F2, F7, F11, F12

Standard Observers
2° and 10°

Response Types
T, E, I, A, G, Tx, Ax, Ex, Hi-Fi

Measurement Range
0.00D–2.5D; 0–160%R

Measurement Time
Approx. 1.4 seconds single measurement
Approx. .9 seconds for consecutive measurements in Speed Read mode

Warm Up Time
None

Repeatability
±0.005D   0.00–2.00D*
±0.010D   2.00–2.50D*
 *Polarized Yellow ±0.010D 0.00–1.80D
  0.10 ΔE Max
  Micro-Spot ±0.010D 0.0–1.8D

Inter-Instrument Agreement
±0.01D or 1% for typical printing processes
0.40 ΔE_{cmc} MAX on 12 BCRA Tiles

Database
1400+ samples

Data Interface
RS-232 serial interface with baud rates from 1200 to 57.6K communication

Power Source
Ni-MH battery pack, 4.8v rated @ 1650mAH

Charge Time
Approximately 3 hours

Environmental
+10°–35°C operating, 30%–85% RH non condensing

Physical Dimensions
Height: 81mm (3.2in)
Width: 76mm (3.0in)
Length: 197mm (7.8in)

Weight
1050 grams (2.3lbs.)

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1.6 x 3.2mm 4-color ©2000 X-Rite Incorporated
Use 500's micro-spot aperture

3.2mm 4-color ©2000 X-Rite Incorporated
Use 500's 2.0 mm aperture

4.5mm 4-color ©1996-1997 X-Rite Incorporated
Use 500's 3.4mm aperture