x·rite

528
Color Reflection Spectrodensitometer

The Ultimate Solution
For Process and Special Colors

A high performance spectral engine gives X-Rite's 528 Spectrodensitometer the ability to measure both density and colorimetry functions. Since spectrophotometry is the newest and most precise color control technology available today, the result is an accurate, versatile, efficient instrument capable of keeping both process and special colors on target.

Advanced Color Control In The Pressroom

Why juggle several instruments when just one fulfills all your pressroom proofing and color quality control needs? The 528 combines the capabilities of a high-end densitometer and a high-end colorimeter into a single unit. You can use the same instrument anywhere in your production process.

On 4-color jobs, the 528 delivers familiar functions like density, dot gain, trap, print contrast, gray balance, hue error, and more. Switch on-the-fly to colorimetry functions like L*a*b,* Yxy, and L*C*h° and more when you need quality control for pastels, Hi-Fi, PANTONE,® and other special colors.

Special Color Compare & Match Functions

The 528 has color compare and match functions unique to X-Rite instruments. Measure up to 24 references and select the type of comparison for each. The 528 automatically compares a sample reading to the closest reference and displays the results. With the Match function, you can make a measurement and find the closest color match in your own reference library or one purchased from X-Rite. In addition to a color name or color value, a formula for the color may also be displayed. Used in conjunction with ColorMail® Express and a PANTONE® Digital Library, you can quickly and easily identify colors from existing jobs, as well as make sure that the colors you are printing match the requirement. Up to 1400 total references may be stored in the instrument database at one time.

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 528 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 under-stood 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.

Upgradeable

All instruments in the 500 Series are firmware upgradeable. You can easily add functionality as your needs change, maintaining the value of your investment.

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

Accessories Provided
- Calibration Reference
- Getting Started Guide
- CD-ROM with complete documentation & training materials
- AC Adapter
- Carrying Case
- 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)
- RS-232 Interface Cable Kit
- Security Cable

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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ISO 9001 Certified

L7-172 (03/04) Printed in U.S.A.

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

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

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