



500 Series

color quality control
from start to finish

The world's only rugged, fast and spectrally accurate line of densitometers



Why the 500 Series?



Rugged Design

X-Rite revolutionized densitometry with the first portable instruments, and the 500 Series is the industry standard in ruggedness. The targeting window pinpoints the measurement area, so you get the right measurement every time. You can select from our three standard measuring areas, or use the microspot measuring area for smaller color targets.

Pick-and-Measure Menu

Depending on your model and its features, you can select density, dot, color and other densitometry particulars from the menu and start measuring. It's that easy to get accurate results. You can also let the instrument auto-pick the right function using Electronic Function Select. It will select density, dot or trap automatically based on the color target you measure.

Feature Selection

Go ahead. Select only the features you want to see on the main screen, and change them back again later. This can be helpful when instruments are used in multiple areas, or to make operation of the 500 easier for new users. Managers can even lock a set of selected features to prevent tampering.

Easy Upgrades

Upgrade your existing 500 Series model to a higher model number as your needs change, maintaining the value of your investment. The upgrade process simply requires a custom keycode, which is available from your local dealer or X-Rite office. In some regions, upgrade keycodes can be purchased from our web store, store.xrite.com. You can also add helpful accessories like polarization and UV exclusion or a battery charging station.

Unequaled Accuracy

No ordinary densitometer can match the accuracy of X-Rite's 500 Series models—the world's only line of densitometers with an advanced spectral engine inside. Spectral data is the basis for standard color and density values. You won't find CIE color capabilities in competitive densitometers.

What's more, X-Rite's exclusive technology produces the highest level of inter-instrument agreement available in densitometers today. This means you can trust your 500 Series to give you comparable color measurements between two or more presses or printing sites, among suppliers, or between the customer and the printing facility.

One-Step Calibration

Each 500 Series instrument comes with a form-fitting white reference, so calibration takes only a few seconds—and only X-Rite has it. Use the built-in reminder to prompt you when to calibrate, ensuring consistent, accurate measurements all the time.

Large Graphic Display

The 500 Series has a big, easy-to-read graphic display. It's configurable for left- or right-handed operation and features full menu commands in multiple languages* to meet the needs of almost anyone, anywhere.

Unrivaled Warranty

All 500 Series instruments come with our industry-leading three-year warranty. You can be sure of solid, reliable and accurate performance beyond the warranty period with our long-term service agreements and ISO certification services.

*Chinese, English, French, German, Italian, Japanese, Portuguese, Spanish and more

Which 500 Series model is right for you?

User Interface

- Sharp/reversible display for 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 and configuration menu
- Security cable (optional)

Spectral Reflectance Features

- Spectral reflectance data and graph

Material Testing

- TAPPI brightness
- Paper color cast value with statistics (mean, sigma)

Accessories Provided

- Calibration reference
- Getting Started Guide
- CD-ROM with complete documentation and training materials
- AC adapter
- Carrying case
- RS-232 interface cable kit (models 528 and 530 only)

Note: X-Rite calibration references are traceable to the U.S. National Institute of Standards and Technology through Munsell Color Science Laboratory RIT.

- Pantone® and ColorMail Express software (models 528 and 530 only)

Options

- 2.0mm aperture (not available on polarized version)
- 6.0mm aperture
- Microspot aperture 1.6mm x 3.2mm (available as factory option only, not available on polarized version)
- X-RiteColor® Master QA and Formulation software (530 model only)
- Optional battery charging stand and spare battery
- Security cable
- RS-232 interface cable kit (included with 528 and 530 only, optional on other models)
- Polarization filter (not available on 2.0mm or microspot version)
- Ultraviolet filter

504 What could be simpler? Our entry-level model 504 measures any density status quickly and reliably.

508 Our basic 508 densitometer is great for pre-press and the press room—it accurately measures density, dot area and dot gain in a single instrument.

518 Our standard pressroom densitometer is essential for 4-color press operators. Use it to help determine which press adjustments need to be made during the run, with functions like trap and print contrast.

520 With the growing adoption of color management, the 520 is the perfect, versatile solution for evaluating CMS performance and for assessing proof to print matching.

528 For printers who print special colors and process color, the 528 is the basic model of choice. It has a full selection of densitometry capability plus several essential color features.

530 The 530 makes easy work of most any print measurement function. It offers spectral data, colorimetry or densitometry, all from a single, rugged instrument.

Contact your nearest dealer or X-Rite office today to see how the rugged, fast and spectrally accurate line of 500 Series densitometers can help your operation.



Color Libraries On Board

Now you can take the colors you need with you in the X-Rite 528 and 530. Use your own color standards or load one of the included PANTONE® digital color libraries. Then make measurements and instantly find the closest match from the library. What could be easier?

The 500 Series uses special, built-in software called firmware. We often improve features of the 500 Series models, and older units can benefit from an update to the latest firmware version, available either on our Web site or from a requested CD. All you'll need is a Windows-based computer. You can also rely upon your X-Rite service center to update firmware for you—and to provide additional services like ISO certification, warranty extensions and annual service agreements.



2.0 x 3.2mm 4-color © 2000 X-Rite Incorporated

Used for micro-spot 500's aperture → ●



3.2mm 4-color © 2000 X-Rite Incorporated

Used for 2.0mm 500's aperture → ●



4.5mm 4-color © 1996-1997 X-Rite Incorporated

Used for 3.4mm 500's aperture → ●

Features

	530	528	520	518	508	504
Density						
Density (absolute or minus paper), Density References (16)	•	•	•	•	•	•
News Density Mode, News Gray Balance Mode	•	•	•	•	•	•
Apparent Dot Area (Tone Value), Dot Gain (Tone Value Increase)	•	•	•	•	•	•
Apparent Trap, Apparent Trap Reference	•	•	•	•	•	•
Print Contrast, Print Contrast Reference	•	•	•	•	•	•
Hue Error / Grayness	•	•	•	•	•	•
Hue Error / Grayness Reference	•	•	•	•	•	•
Electronic Function Select (EFS)*	•	•	•	•	•	•
Compare	•	•	•	•	•	•
Color						
XYZ	•	•	•	•	•	•
L*a*b* (CIE), Lab (Hunter)	•	•	•	•	•	•
Illuminants	All**	All**	D50			
Observers	2,10	2,10	2			
ΔE_{ab} Color Difference	•	•	•			
L*C*h° (ab), L*C*h° (uv)	•	•	•			
ΔE_{CMC} Color Difference, ΔE_{94} Color Difference	•	•	•			
Yxy, L*u'v', Yu'v'	•	•	•			
Colorimetric Graphing	•	•	•			
				Match	•	•
Paper						
Brightness / Paper Cast	•	•	•			
Spectral Reflectance						
Spectral Data Output, Spectral Graphing	•	•	•			
Memory						
Color References	1424	1424	24			
Software						
ColorMail Express, Pantone Digital Color Libraries	•	•	•			
Warranty						
3 year warranty	•	•	•	•	•	•

* EFS – Electronic Function Selection—automates selection of measurement function ** All illuminants include: A, C, D₅₀, D₅₅, D₆₅, D₇₅, F₂, F₇, F₁₁, F₁₂
Comparison chart is meant as a general reference only, for specific features and capabilities details consult the individual product specification sheets.

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 (520 is D₅₀ only)

Standard Observers

2° and 10° (520, 2° only)

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
Micro-Spot ±0.010D 0.0–1.8D

Inter-Instrument Agreement

0.10 ΔE MAX on white ceramic
±0.01D or 1% for
typical printing processes
0.40 ΔE_{cmc} MAX on
12 BCRA Tiles

Specifications Database

1400+ samples
(528 & 530 only)

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.)

ISO 9001
Certified



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