

The X-Rite® 310



QC system for
color photo processing

The X-Rite® 310 Color Transmission/Reflection Densitometer

Adding a new dimension of speed, reliability and efficiency to your process control readings.

To design the 310, we took a close look at the needs of the photofinishing industry. Then, we applied years of densitometry knowledge to develop a system that's superior in every respect. The result is a sophisticated color transmission/reflection densitometer that makes your process monitoring easier, more accurate and efficient than ever. In fact, the X-Rite 310 offers more practical value — in terms of technology, performance and price — than any other system available today.

Process Control Readings In Less Than A Minute

By blending the latest microcomputer technology with a unique software program, this advanced densitometer simplifies your process control readings. With only a minimum amount of training, even an inexperienced operator will find it easy to take an accurate series of readings in less than a minute.

Two technological features make this possible. First, automatic color selection eliminates the need to manually adjust a filter wheel. Our unique optical design allows you to switch from one color channel to another,



Left-hand side of 310 display panel shows values for visual and green or magenta readings and indicates certain functions and modes.

electronically. More importantly, the instrument can simultaneously read and display the values for all colors (visual, red, green and blue).

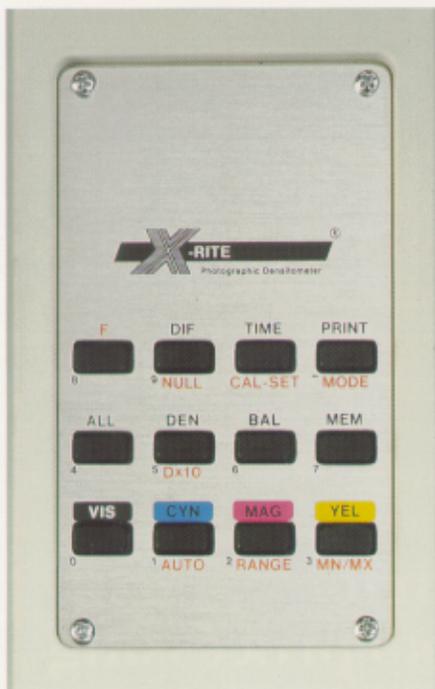
Auto color measurement is the second important feature that makes process control readings quick and accurate. With this feature, the instrument automatically recognizes and measures only the dominant color being read. When you move from one reading to the next, the 310 automatically responds to color changes.

Together with the instrument's ability to read density differences (HD-LD), auto color measurement delivers the unparalleled performance standards you need to rapidly plot the numbers used for monitoring your color print processor control strips.

Off-Easel Color Evaluation Provides Optimum Color Balance

The 310's off-easel negative evaluation capability gives you the color balance needed to produce quality prints from a wide range of negatives. The densitometer automatically computes the necessary values for selecting proper filter packs.

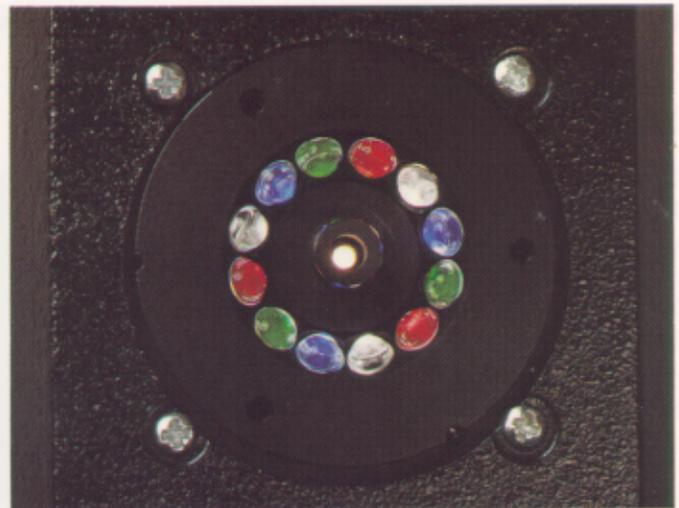
For convenient access to commonly used target densities, the X-Rite 310 includes five memories for storing these standard color values. In addition, the unit will retain the information even when its power is turned off or unplugged. Because off-easel evaluation is incorporated into the 310's design, you gain the performance advantages of another QC instrument at no extra cost.



The 310 reflection unit's control panel provides easy push-button operation.



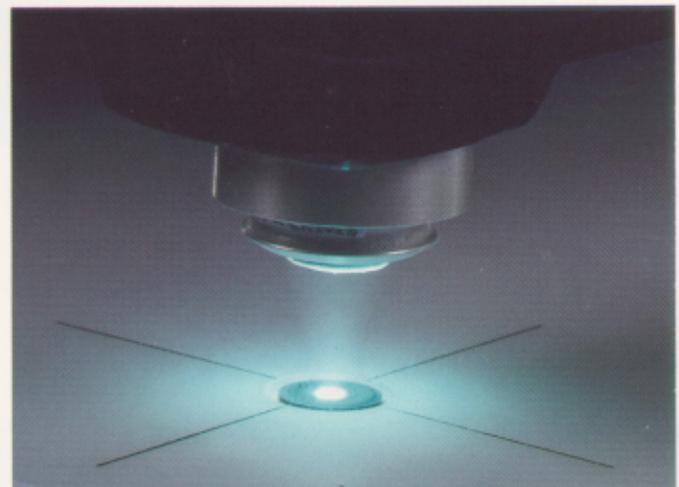
Right-hand display shows values for red or cyan and blue or yellow as well as indicating the proper memory mode, status response mode and others.



X-Rite's unique optical design allows you to switch from one color channel to another, electronically.

Computer Interface: A Standard Feature

For added versatility and convenience, the 310 includes two-way, RS-232 interface capability as a standard feature. This allows the densitometer to communicate with a computer or with an electronic printer. The densitometer can also transmit information to a computer where comprehensive evaluation and tracking may occur. In turn, the densitometer will accept instructional or corrective data from the computer.



Close-up of the transmission reading head optics. Interchangeable apertures allow accurate measurement of areas as small as 1mm (.5mm optional).



Located on the unit's measuring arm, the transmission control buttons are clearly labeled for easy use.

Warm-Up Time Under 2 Minutes

Because your time is so valuable, our 310 is designed to take only seconds to warm-up. In two minutes or less, the densitometer is ready to take measurement readings. And, there's no need to leave the densitometer on continuously. When it's not in use, turn it off — confidently knowing that it will be operating at peak efficiency minutes after you turn it back on. This quick warm-up time plus the significant reduction in heat buildup add to the 310's superior stability and performance.

Compare For Yourself

We challenge you to compare the X-Rite 310 with any other densitometer available. We're confident you'll agree that this highly-specialized quality control system meets the growing needs of the photofinishing industry better than any other. In fact, it's the choice of most major film manufacturers for their film inspection and quality control.

You'll find that the 310 has features that make it easier for you to improve processing quality and productivity. You'll also discover that the 310 is priced hundreds of dollars less than the nearest competitive models.

Contact your X-Rite dealer for more information and a demonstration of the X-Rite 310 Color Transmission/Reflection Densitometer.

Important Advantages

- Computerized circuitry for added stability, accuracy and convenience.
- Auto color select for simultaneous reading of colors and electronically adjustable filter wheel.
- Hermetically sealed filters to protect against dust, moisture and filter fade.
- RS-232 interface capability for use with computerized quality control systems and electronic printers.
- One year limited warranty (lamps excluded).



Specifications

Transmission Unit

Status A & M Responses

Measuring Range

0-4.0D

Accuracy

± .02D from 0-3.7D
(3mm aperture)
± 1% to 4.0D
(3mm aperture)

Repeatability

± .01D (Density x 1)
± .005D (Density x 10)

Zero Stability Per 8 Hours

± .02D

Scale Factor (Slope) Stability

± 1% per 6 months

Warm-Up Time

2 minutes

Measuring Area

1, 2, & 3mm (.5mm optional)

Line Voltage

95-130V AC (Domestic Models)
190-260V AC (Export Models)

Power Requirement

50 VA typical

Line Frequency

50-60 Hz

Operating

Temperature Range

10-35°C
50-95°F

Dimensions

Height 6.0 inches (15.2 cm)
Width 13.1 inches (33.0 cm)
Length 17.1 inches (43.5 cm)
(Measuring Arm Length:
10.5 inches/26.7 cm)

Weight

17.5 lbs. (7.95 kg)

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Form L7-031 (Revised 12/93)
Specifications subject to change without notice.

Reflection Unit

Status A Response

Measuring Range

0-2.5D

Accuracy

± .02D from 0-2.5D

Repeatability

± .01D (Density x 1)
± .005D (Density x 10)

Zero Stability Per 8 Hours

± .01D

Scale Factor (Slope) Stability

± 1% per 6 months

Warm-Up Time

2 minutes

Measuring Area

3/16" (4.76 mm)

Line Voltage

95-130V AC (Domestic Models)
190-260V AC (Export Models)

Power Requirement

50 VA typical

Line Frequency

50-60 Hz

Operating Temperature Range

10-35°C
50-95°F

Dimensions

Height 1.7 inches (4.3 cm)
Width 3.0 inches (7.6 cm)
Length 7.1 inches (18.0 cm)

Weight

1.5 lbs. (.68 kg)

To order export models, add suffix "X", e.g. 310T becomes 310TX. Model 310 is available as a transmission unit (310T), or it can be ordered with the reflection unit (310TR).

X-Rite®

3100 44th Street, S.W.
Grandville, MI 49418
Phone: (616) 534-7663
Fax: (616) 534-0723
Telex: 226468