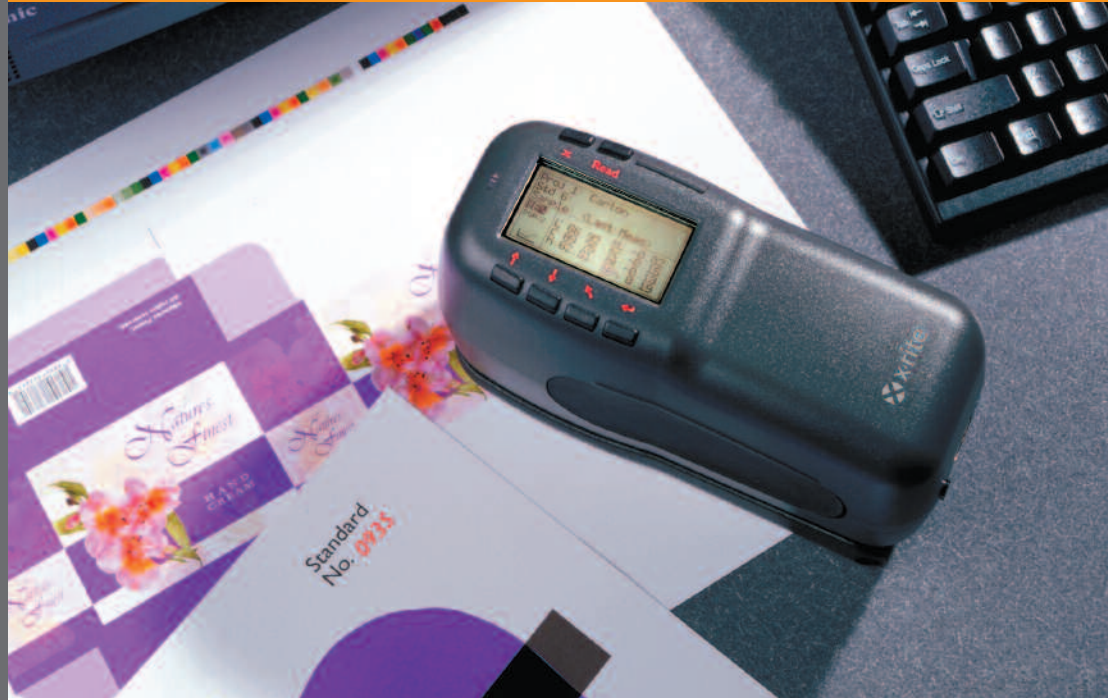




# 939 Color Reflection Spectrodensitometer



## The Definitive Graphic Arts Color Solution

The X-Rite 939 is the ultimate graphic arts Spectrodensitometer, designed to provide incomparable accuracy and usefulness in the most demanding printing, packaging, proofing and ink formulation applications.

## Unparalleled Agreement

The 939 offers the industry's premier accuracy and multi-unit agreement for hand-held spectrodensitometer solutions, improving upon the benchmark set by its forerunner, the X-Rite 938 Spectrodensitometer. This unique capability enables only the 939 to excel in multi-site or multi-party agreement, giving users the ultimate assurance of matches, resulting in color consistency and confidence in product or brand color integrity. Rely on the 939 to effectively communicate color between print buyer, graphic designer, pre-press and pressroom, or to exchange crucial color information with ink and paper suppliers.

## Unequaled Portable Versatility

Not only does the 939 boast unrivaled inter-instrument agreement, it adds the versatility of remote measurements and changeable aperture sizes. Only the 939 can quickly switch between 4mm, 8mm and 16mm apertures in the field. And with on-board storage for thousands of color standards, tolerances and samples, you can make pass/fail decisions at press side or in the field with no need for an attached computer. Of course all data is time stamped and saved in memory, so ISO or vendor review reporting is as simple as connecting to any X-Rite Color Master software solution and transferring your supporting data.

In short, the 939 Spectrodensitometer is perhaps the most precise, intelligent QC tool for measuring and controlling color in your printing, packaging, converting or ink formulation or digital imaging operations.

## Boundless Features

The advanced 939 can be used for quick evaluation of L\*a\*b\* of an ink or substrate, Density or Dot Area measurements of a proof, and for full ink formulation when connected to X-Rite Color Master software.

The 939 also provides a unique spectral density and dot area function for use with special colors or HiFi printing. On board averaging gives summary information at a glance, and the graphing display can present density or spectral data graphically.

Use these unique, multipurpose capabilities to minimize color mismatches and avoid costly errors by making clear decisions based on the right data, at any location in the prep or printing process.



## Well Connected

X-Rite can help turn your color measurement data into summarized information for use in quality reporting for ISO or other quality efforts, customer relations, vendor documentation or job history tracking. Our X-Rite Color Master software solutions give you a complete picture of the measurements you make. From entry-level QA-Master I to advanced ink formulation with Formulation Master III, you'll find information presented as colorful, easy-to-read charts, graphs and tabular data. In seconds, you'll see how samples are measuring up to your color specifications or customer standards.



The advanced 939 Spectrodensitometer calculates dozens of color expressions including L\*a\*b\*, Density, opacity, color strength and dozens of other useful metrics. Each one is presented using the large graphical display and intuitive 939 keypad.

## Specifications

### Measuring geometry and Area

0/45°, DRS spectral engine, choice of aperture: 4mm, 8mm, 16mm

### Receiver

Blue enhanced silicon photodiodes

### Light source

Gas-filled tungsten lamp, approx. 2856°K (corrected for D65 illuminant)

### Illuminant types

A, C, D50, D65, D75, F2, F7, F11, & F12

### Standard observers

2° & 10°

### Measurement range

0 to 200% reflectance  
0 to 2.5D

### Spectral range

400nm – 700nm

### Spectral interval

10nm – measured, 10nm – output

### Inter-instrument agreement

0.15 DE\*ab, based on avg. of 12 BCRA series II tiles 0.30 DE\*ab max. on any tile

### Short-term repeatability

0.05 DE\*ab max. on white ceramic, standard deviation

### Display

128 x 256 pixel graphical LCD

### Storage

1,024 standards with tolerances, 2,000 samples

### Measurements per charge

1000 typical

### Measuring time

Approx. 2 seconds

### Data interface

Patented bi-directional RS-232, 300 to 57,600 baud

### Lamp Life

Approx. 500,000 measurements

### Power supply

Removable NiMH (Nickel-metal hydride) battery pack included; 7.2v DC rated @ 1450mAh.

### Charge time

Approx. 4 hours – 100% capacity

### AC adapter requirements

90–260VAC, 50–60 Hz Input  
12 Vdc output

### Operating temperature range

50° to 104°F (10° to 40°C)

### Storage temperature range

85% relative humidity maximum (non-condensing)  
-4° to 122°F (-20° to 50°C)

### Weight

2.4lbs. (1.1 Kg)

### Dimensions

Height: 4.3" (10.9 cm)  
Width: 3.3" (8.4 cm)  
Length: 7.7" (19.6 cm)

### Usage

Indoor only

### Altitude

2000 m

### Pollution Degree

2

### Overvoltage

Category II

### Accessories Provided

Calibration reference, Verification reference, Documentation, Power supply, 4mm, 8mm & 16mm Measuring Apertures and Target windows, Carrying case

### Optional Accessories

Ultra Violet Filter  
Battery Charging Stand  
Extra Battery Pack  
X-RiteColor Master Software  
Extended Warranty

ISO 9001  
Certified

### X-Rite Global Headquarters

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