



MA48 Multi-Angle Spectrophotometer

Portable,
Affordable
and Precise
Color Control

- Five measurement angles (15°, 25°, 45°, 75°, 110°)
- Single screen displays all angles
- Nine color value formats: $L^*a^*b^*$, $\Delta L^*\Delta a^*\Delta b^*$, $L^*C^*h^\circ$, $\Delta L^*\Delta C^*\Delta H^*$, Flop Index, Δ Flop Index, $\Delta E_{L^*a^*b^*}$, ΔE_{cmc} and DIN 6175
- Seven languages
- Intuitive, menu-driven operation
- Industrial membrane switches – easy to see, use and clean



EXPERIENCE

the measurable color difference.™

MA48 Multi-Angle Spectrophotometer

The X-Rite® MA48 is an affordable portable multi-angle spectrophotometer, designed to give fast, precise and accurate color measurement information on metallic, pearlescent and special effect finishes. It delivers a full range of angular viewing, from 15° to 110°. The MA48 allows remote measurement operation. Measurements are stored in the instrument and later uploaded to a PC running X-RiteColor® Master quality control and formulation software.



Dynamic Rotational Sampling (DRS)

The MA48 employs Dynamic Rotational Sampling, a patented X-Rite technology that uses a simple, rugged optical system to measure all angles simultaneously.

Ergonomic Design

The MA48 fits comfortably in the user's hands and is easy to position for accurate measurement. Its optional barcode-reading wand allows users to read and store data instantly. All controls are large and easy to operate.

Docking Station

The docking station enables easy data transfer to a PC. The docking station provides open-port black calibration and has a place to store the calibration plaque. It charges/refreshes the battery and provides a convenient way to keep the instrument safe and secure when not in use.

Multiple Languages

The MA48 supports English, German, French, Spanish, Italian, Portuguese and Chinese (simplified).

One-Year Warranty

X-Rite offers a one-year limited warranty on this instrument.

Service and Support

X-Rite leads the market in service, providing phone/web/e-mail support, instrument recertification and flat-rate service contracts, as well as hands-on training classes worldwide.

Specifications:

Measuring Geometrics

- 45° illumination
- 15°, 25°, 45°, 75°, 110° specular viewing
- Angular accuracy $\pm 0.15^\circ$
- Fiber optic pick-up, coupled with DRS technology

Measuring Area

0.5 in. diameter (12mm)

Light Source

Gas-filled tungsten lamp, color corrected to approx. 4000°K

Illuminant Types

C, D₆₅, D₅₀, A, F2, F7, F11 & F12

Standard Observers

2° & 10°

Receiver

Blue-enhanced silicon photodiodes

Spectral Range

400nm - 700nm

Spectral Interval

28 band spectral measurement:

- 10nm interval from 400nm to 640nm
- 20nm interval from 640nm to 700nm
- 15nm bandwidths

Spectral Data Output

Spectral reflectance values are available for output from the RS-232 or USB port via the docking station for 5 angles at 10nm intervals from 400nm to 700nm

Measurement Range

0 to 400% reflectance

Measuring Time

Approx. 2.0 seconds

Inter-Instrument Agreement

- 0.30 ΔE^* avg. on reference BCRA tile set
- 0.40 ΔE^* max. on any chromatic tile
- 0.15 ΔE^* max. on any grey tile

Short-Term Repeatability

0.10 ΔE^*_{ab} on white ceramic

Lamp Life

Approx. 500,000 measurements

Power Supply

Built-in, rechargeable Ni-metal hydride battery pack; 7.2 VDC rated @ 1400 mAh

AC Adapter Requirements

- MA48: 90-130VAC, 50-60Hz, 15W max
- MA48X: 90-260VAC, 50-60Hz, 15W max

Charge Time

In Instrument: 4 hrs

Measurements Per Charge

1,000 5-angle measurements (continuous measurements @ 10 sec. intervals)

Data Storage (five angles)

200 Standards
850 Samples

Data Interface

Patented bi-directional RS-232 and USB, 9,600-19,200 baud

Display

128 x 256 pixel graphical LCD

Operating Temperature Range

50° to 104°F (10° to 40°C)
85% Relative humidity max (non-condensing)

Storage Temperature Range

-4° to 122°F (-20° to 50°C)

Weight

2 lbs. 7 oz. (1.1 kg)

Dimensions

5.27" H 5.40" W 8.05" L
(13.4cm 13.7cm 20.4cm)

Accessories Provided

Calibration standards, docking station, AC adapter, operation manual, and wrist strap.

* Specifications and design subject to change without notice. X-Rite standards are traceable to National Institute of Standards and Technology, Gaithersburg, Maryland, USA.



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