



# SP64

PORTABLE SPHERE SPECTROPHOTOMETER

ADVANCED  
COLOR  
MEASUREMENT

—in the laboratory, plant or field

- Lightweight, compact, portable instrument
- Diffuse/8° sphere optical geometry
- 0.10  $\Delta E_{cmc}$  inter-instrument agreement
- Switchable 4mm or 8mm measurement area (optional fixed 14mm)
- Large, easy-to-read graphical LCD display
- JOBS and PROJECT operation modes
- Opacity and color strength measurement
- Flip-back target shoe for flexible use
- Simultaneous measurement of both specular component included and specular component excluded
- Rugged construction
- Rechargeable battery for remote use



## EXPERIENCE

the measurable color difference.™

# SP64

PORTABLE SPHERE SPECTROPHOTOMETER

The SP64 is the ultimate sphere spectrophotometer, designed to give fast, precise, and accurate color measurement information on materials ranging from paper and paint, to plastics and textiles.

## Measuring Functions and Indices

The SP64 provides absolute and difference measurements for the following colorimetric systems. These values can be obtained from any of nine illuminants with 2° or 10° observer angle: CIE XYZ, CIE Yxy, CIE LAB, Hunter LAB, CIE LCH, CMC and CIE94. Whiteness and Yellowness per ASTM E313-98, Metamerism Index and DIN 6172 + AATC Gray Scale.

## Special JOB and PROJECT Modes

The JOB function is a programmed sequence of specific steps to assist the operator in the color measurement process. Up to six lines of specific instructions per measurement routine can be downloaded from X-Rite software and displayed on the SP64's LCD screen. Multiple color standards can also be collected under an identified PROJECT, a feature that supports corporate color standards programs.

## Pass/Fail Mode

The SP64 stores up to 1,024 standards with tolerances for easy pass/fail measurement. A red/green LED indicator and the instrument's LCD display provide visual confirmation of results. A tone also sounds to indicate a fail result and measurement completion.

## Switchable Apertures

The internal apertures can be quickly changed with the flip of a switch for 4mm or 8mm measurement areas. The instrument will recognize which aperture is being utilized and automatically adapt calibration data. This allows the operator to change measurement mode quickly and efficiently, depending on the sample size.

## The Sphere

The SP64's diffusing sphere is made of Spectralon®, a durable, highly reflective material designed to perform in a rigorous production environment. The diffusing material prevents premature degradation due to the flaking and chipping of the sphere wall material.

## Inter-Instrument Agreement

The SP64 has superior inter-instrument agreement—essential in multiple-instrument color-control programs. The SP64 offers excellent inter-instrument agreement with X-Rite's SP62 sphere spectrophotometer. Both input data into X-Rite's line of Windows-based color quality assurance and color formulation software.

## Opacity, Color Strength and Shade Sorting

The SP64 can measure opacity as well as three color-strength options: chromatic, apparent and tri-stimulus calculations. The SP64 also performs 555 shade sorting. These are important considerations in the color quality control of manufactured products involving plastic, painted or textile materials.

## Texture and Gloss Influence

To determine the influence of the specular component, the SP64 allows simultaneous measurement of both specular-included (color) and specular-excluded (appearance).

## User-Friendly Ergonomics

A wrist strap and tactile side grips make the instrument easy to hold. Read-outs are large and easy to see. A rechargeable battery pack allows extended operation of the instrument.

## SPECIFICATIONS:

### MEASURING GEOMETRICS

d/8°, DRS spectral engine, choice of switchable 4mm and 8mm optical aperture or fixed 14mm aperture

- 4mm measurement area  
6.5mm target window
- 8mm measurement area  
13mm target window
- 14mm measurement area  
20mm target window

### LIGHT SOURCE

Gas-filled tungsten lamp

### ILLUMINANT TYPES

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

### STANDARD OBSERVERS

2° & 10°

### RECEIVER

Blue-enhanced silicon photodiodes

### SPECTRAL RANGE

400 – 700nm

### SPECTRAL INTERVAL

10nm – measured  
10nm – output

### STORAGE

1,024 standards with tolerances,  
2,000 samples

### INTER-INSTRUMENT AGREEMENT

8mm/14mm

*CIE L\*a\*b\**:

Avg. 0.13  $\Delta E^*_{ab}$  based on avg.  
of 12 BCRA Series II tiles  
(specular component included)  
Max. 0.25  $\Delta E^*_{ab}$  on any tile  
(specular component included)

*CMC equivalent*:

Avg. 0.10  $\Delta E_{cmc}$  based on avg.  
of 12 BCRA Series II tiles  
(specular component included)  
Max. 0.20  $\Delta E_{cmc}$  on any tile  
(specular component included)

4mm

*CIE L\*a\*b\**:

Avg. 0.20  $\Delta E^*_{ab}$  based on avg.  
of 12 BCRA Series II tiles  
(specular component included)  
Max. 0.40  $\Delta E^*_{ab}$  on any tile  
(specular component included)

*CMC equivalent*:

Avg. 0.15  $\Delta E_{cmc}$  based on avg.  
of 12 BCRA Series II tiles  
(specular component included)  
Max. 0.30  $\Delta E_{cmc}$  on any tile  
(specular component included)

### SHORT-TERM REPEATABILITY<sup>1</sup>

.05  $\Delta E^*_{ab}$  on white ceramic  
(Standard deviation)

### MEASUREMENT RANGE

0 to 200% reflectance

### MEASURING TIME

Approx. 2 seconds

### LAMP LIFE

Approx. 500,000 measurements

### POWER SUPPLY

Removable (Ni-metal hydride)  
battery pack; 7.2 VDC rated @ 1650 mAh.

### AC ADAPTER REQUIREMENTS

90–130VAC, 50–60Hz, 15W max

### CHARGE TIME

Approx. 4 hours – 100% capacity

### MEASUREMENTS PER CHARGE

1,000 measurements within 8-hour  
period

### DISPLAY

128 x 256 pixel graphical LCD

### DATA INTERFACE

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

### OPERATING TEMPERATURE RANGE

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

### STORAGE TEMPERATURE RANGE

-4° to 122°F (-20° to 50°C)

### WEIGHT

2.4 lbs. (1.1 kg)

### DIMENSIONS

4.3"H 3.3"W 7.7"L (10.9cm 8.4cm 19.6cm)

### ACCESSORIES PROVIDED

Calibration standards, operation  
manual, AC adapter, carrying case

### OPTIONS

Optional remote battery charger  
and replacement rechargeable  
battery packs available

<sup>1</sup>Based on 20 measurements on a white tile.

\* 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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