In a complex global supply chain, there are many points at which color errors can occur. Accumulated errors across the design, specification, formulation, manufacturing and assembly of raw materials, parts and final product can result in rejects and rework—and the further along the supply chain these errors occur before they are mitigated, the more costly they become. Color must be consistently measured at various checkpoints throughout the color supply chain, in processes that include Specification, Formulation, Approvals and Quality Control.

Diversity of Instruments Can Compromise Color Fidelity

Specifiers in the most efficient supply chains communicate digital color data for their standards to all partners in order ensure color fidelity. Yet even with best efforts in implementing standard operating procedures such as these, color fidelity can still be compromised due to users employing different instrument settings in different environments and not paying careful attention to the condition of the samples they are measuring. In addition, partners throughout the supply chain might be using different makes and models of instruments as well as instruments of different ages, perhaps even using obsolete technologies. This can lead to further questions about the reliability of color decisions.

The new X-Rite Ci7800, which is used as the master instrument, and the Ci7600 which is the cost effective compatible version spectrophotometers represent a quantum leap in producing and maintaining high value color measurement data throughout the entire color supply chain. Unlike any industrial spectrophotometer before them, the Ci7800 and Ci7600 sphere spectrophotometers, in conjunction with X-Rite Color iControl software, can be adapted to fit into any color supply chain (including those anchored by instruments from other suppliers). Further, the Ci7800 and Ci7600 series spectrophotometers when paired with Color iQC or Color iMatch
automatically ensure proper instrument settings, track compliance with measurement requirements, and record images of each measured sample. The result is a seamless automated color measurement and management process that can be easily audited for invalid measurements and sample defects, while providing the industry’s best inter-instrument agreement and repeatability.

Advanced Automation for the Ultimate in Productivity, Accuracy

With the X-Rite Ci7800 and Ci7600 series of sphere spectrophotometers, instrument settings, as defined by a job requirement or a color standard, are automatically communicated to the instrument. Settings such as aperture size, UV Calibration and Specular Condition (SCI/SCE) are communicated to the spectrophotometer and proper adjustments are automatically made. The operator may only need to change the physical aperture plate — optics will automatically zoom in or out to the appropriate position, speeding up the measurement process and improving operator productivity. Should the wrong aperture plate inadvertently be installed, intelligent software alerts the operator to install the correct aperture plate in order to meet the requirements of the job.

Legacy Data: Preserving and Protecting

Since many brand owners and specifiers depend on legacy data developed throughout the years and across the entire supply chain as a foundation for perennial standards or formulation databases, the X-Rite Ci7800 and Ci7600 series benchtop sphere spectrophotometers can be configured to read color with results that are extremely similar to the legacy instruments that created those valuable standards and databases in the first place and upon which many businesses depend. For example, the Ci7800 and Ci7600 can be configured to measure within the normal performance of legacy Gretag and X-Rite top-of-the-line instruments, as well as that of benchmark instruments from other brands. This unique ability to transform the spectrophotometer’s measurement profile brings a new level of flexibility to many supply chains that are currently struggling with the uncertainty of a mixed instrument fleet, a situation that often occurs as a result of mergers and acquisitions as well as the generally complex and globally distributed nature of today’s manufacturing networks.

The next-generation series of sphere spectrophotometers creates a valuable visual and digital audit trail that no other brand or instrument can offer. An on-board digital camera that allows images of every measurement to be captured, creates a visual record that can be retrieved later if a question arises about the validity of that measurement. Any smudges, tears, wrinkles or other defects on the sample that could affect the measurement result can be clearly seen on the captured sample image that accompanies the measurement data. That data stream also contains all of the settings (both the required settings and any that may have been used to circumvent those requirements) as well as instrument temperature and humidity conditions at the time of measurement.
Above and Beyond

X-Rite Ci7800 and Ci7600 instruments also feature a wide array of new design features that enhance the value of X-Rite’s latest offering, giving it a performance level above and beyond anything else currently on the market. These include:

- Faster and more accurate measurements through a laser targeting capability that allows the operator to observe exactly where in the sample the transmission measurement will be taken.
- Greater measurement stability over a wide range of temperature and humidity conditions when compared to current instruments in the field since these conditions can affect color measurements.
- Modular design that allows for easier serviceability in the field, thereby virtually eliminating the need for Return to Factory Service, which can often put an instrument out of service for lengthy time periods.

Additional Software Options for Improved Productivity, Reliability

By adding selected software solutions to support the X-Rite Ci7800/Ci7600, productivity is improved and expensive errors and rework are reduced.

- NetProfiler allows verification, optimization and certification of the performance of color measurement devices—across the plant or around the globe.
- Color iMatch ensures efficient accurate formulation of colorants that meet customer-provided standards.
- Color iQC removes the guesswork from evaluating colors in the specification and manufacturing of raw materials and finished product.
- Color iQC Taper is a color sequencing solution that allows the use of CIELab data (representing rolls of fabric) to place that data into a sequence (taper) such that color differences between adjacent rolls are minimized.

The new X-Rite Ci7800 and Ci7600 truly deliver process control for perfect color fidelity. They set a new standard for measuring, managing and communicating color data while providing an unprecedented audit trail in a package that is more stable, delivers repeatable performance and is easier to service than any other benchtop sphere spectrophotometer in the market today.

FOR MORE INFORMATION

To learn more about Ci7800 and Ci7600, please contact your X-Rite representative, or find our contact information at: http://www.xrite.com/top_contact.aspx
<table>
<thead>
<tr>
<th><strong>Ci7800</strong></th>
<th><strong>Ci7600</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Repeatability (white tile)</strong></td>
<td>0.01 RMS ΔE&lt;sub&gt;CIELAB&lt;/sub&gt;*&lt;br&gt;0.08 Avg. ΔE&lt;sub&gt;CIELAB&lt;/sub&gt;</td>
</tr>
<tr>
<td><strong>Inter-Instrument Agreement</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Illumination</strong></td>
<td>Pulsed Xenon, D65 calibrated</td>
</tr>
<tr>
<td><strong>UV Filter(s):</strong></td>
<td>400nm (standard), 420nm***, 460nm***</td>
</tr>
<tr>
<td><strong>Spectral Range</strong></td>
<td>360 nm to 780 nm</td>
</tr>
<tr>
<td><strong>Wavelength Accuracy</strong></td>
<td>&lt;0.10 nm typical</td>
</tr>
<tr>
<td><strong>Wavelength Precision</strong></td>
<td>&lt;0.05 nm typical</td>
</tr>
<tr>
<td><strong>Wavelength Interval</strong></td>
<td>10 nm (default); 5nm; 20nm</td>
</tr>
<tr>
<td><strong>Band Pass</strong></td>
<td>10 nm (default); 5nm; 20nm</td>
</tr>
<tr>
<td><strong>Photometric Range</strong></td>
<td>0.0% to 200% reflectance</td>
</tr>
<tr>
<td><strong>Photometric Resolution</strong></td>
<td>0.001%</td>
</tr>
<tr>
<td><strong>Measurement cycle time</strong></td>
<td>≈2.5 seconds</td>
</tr>
<tr>
<td><strong>Sample Preview</strong></td>
<td>Video and door preview</td>
</tr>
<tr>
<td><strong>Reflectance Apertures</strong></td>
<td>25mm&lt;br&gt;17mm&lt;br&gt;10mm&lt;br&gt;6mm&lt;br&gt;3.5mm ***</td>
</tr>
<tr>
<td><strong>Total Transmittance Apertures</strong></td>
<td>22mm&lt;br&gt;17mm&lt;br&gt;10mm&lt;br&gt;6mm</td>
</tr>
<tr>
<td><strong>Direct Transmittance</strong></td>
<td>22mm</td>
</tr>
<tr>
<td><strong>Optical Configuration</strong></td>
<td>Tri-beam diffuse 8°, 6&quot; sphere, 2D CCD array/holographic grating</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>Height 31 cm (12.2 inches)&lt;br&gt;Width 22 cm (8.7 inches)&lt;br&gt;Depth 56 cm (22.0 inches)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>20.5 kg (45.0 lbs)</td>
</tr>
<tr>
<td><strong>Temperature (operating)</strong></td>
<td>5°C to 40°C</td>
</tr>
<tr>
<td><strong>Relative Humidity (operating)</strong></td>
<td>5% to 85%, non-condensing</td>
</tr>
<tr>
<td><strong>Electrical Requirements</strong></td>
<td>100 to 240 VAC / 50 to 60Hz</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>USB 2.0</td>
</tr>
<tr>
<td><strong>NetProfiler</strong></td>
<td>Embedded</td>
</tr>
<tr>
<td><strong>Special Features:</strong></td>
<td>Transmission laser targeting&lt;br&gt;Simultaneous SCI/SCE&lt;br&gt;Instrument humidity and temperature sensors&lt;br&gt;Automated UV and lens control&lt;br&gt;Digital signature&lt;br&gt;Vertical or horizontal*** measurement plane orientation</td>
</tr>
</tbody>
</table>

* High Precision mode, ** Average ΔE of BCRA ceramic standards relative to X-Rite standardized values under lab conditions, 25mm, 22 degrees C., *** optional.