

# DigiEye

Putting Colour in Context

## DigiEye System

**Non-contact** digital colour measurement and imaging system



### INSTRUMENT TYPES

#### DigiEye Enclosed Illumination Cube - Standard CIE:

Calibrated lighting environment, with a high resolution, characterised digital camera.

#### DigiEye Enclosed Illumination Cube - Standard CIE + Additional UV:

Additional UV for the assessment and detection of optical brightener and fluorescent materials.

#### DigiEye Large Area Imaging (LAI) System - Standard CIE:

1.5 mtrs x 1.3 mtrs 'walk-in' image capture area, for the imaging and assessment of larger items.

### SOFTWARE TYPES

#### DigiEye Full System

| CIE code | CIE + UV code |   |
|----------|---------------|---|
| DECIEFU  | DEUVFU        | DigiEye Full system, including both the DigiPix and DigiGrade software options. |

#### DigiPix

| CIE code | CIE + UV code |   |
|----------|---------------|---|
| DECIEDP  | DEUVPD        | DigiPix software, for Colour Measurement, Colour Quality Control, Colour Replacement & Simulation of a product imaged in the DigiEye illumination cube. |

#### DigiGrade

| CIE code | CIE + UV code |  |
|----------|---------------|--|
| DECIEDG  | DEUVDG        | DigiGrade software for image capture of test pieces and objective and repeatable assessment of wash fastness grading for change of shade and staining. |

Approved by the following:

- ISO Standard: BS EN ISO 105-A11:2012. Textiles-Test for colour fastness. Part A11: Determination of colour fastness grades by digital imaging techniques.
- Accepted as part of ISO 17025 UKAS accreditation (or the equivalent national body).
- ISO & AATCC compatible.
- Recommended for grading test results by M&S.

#### DigiImage

| CIE code | CIE + UV code |   |
|----------|---------------|---|
| DECIEIMG | DEUVIMG       | DigiImage software for image capture, image view, save and print only. For a consistent method of capturing images and creating photographic standards. |

#### DigiView

| Code   |  |
|--------|--|
| DEVIEW | DigiView software to view, save and print colour calibrated images only, which have been sent from a DigiEye system. |

## DigiEye MODELS

| HARDWARE   | DigiEye Full System | DigiPix | DigiGrade | DigiImage | DigiView | DigiPix with LAI booth |
|--|---------------------|---------|-----------|-----------|----------|------------------------|
| Enclosed Illumination Cube (with or without additional UV)   | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| Nikon D90 Camera Body, Power Supply & USB Lead               | ✓                   | ✓       | ✓         | ✓         | -        | ✓                      |
| Nikon D7000 Camera Body, Power Supply & USB Lead             | o                   | o       | o         | o         | -        | o                      |
| Lens: AF Nikkor 35mm f/2D & Lens Hood                        | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| Zoom Lens: AF-S Nikkor 24-85mm f/3.5-4.5G                    | o                   | o       | o         | o         | -        | ✓                      |
| Camera Mounting Stand & Quick Release Bracket                | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| DigiTizer Colour Calibration Chart                           | ✓                   | ✓       | ✓         | ✓         | -        | ✓                      |
| DigiTizer Colour Calibration Chart for Whiteness Measurement | o                   | o       | o         | o         | -        | o                      |
| White Uniformity Board                                       | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| Sample Template Board & Imaging Insert                       | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| Custom Imaging Templates                                     | o                   | o       | o         | o         | -        | -                      |
| 45° to 10° Large Mirrors                                     | ✓                   | ✓       | ✓         | ✓         | -        | -                      |
| Monitor: Eizo CG246W   | ✓                   | ✓       | o         | o         | ✓        | ✓                      |
| ChromaSensor 5 Monitor Calibrator                            | ✓                   | ✓       | o         | o         | ✓        | ✓                      |
| Printer: Epson Stylus Photo R2880 (or equivalent)            | o                   | o       | o         | o         | o        | o                      |

| SOFTWARE   | DigiEye Full System | DigiPix | DigiGrade | DigiImage | DigiView | DigiPix with LAI booth |
|--|---------------------|---------|-----------|-----------|----------|------------------------|
| Camera Calibration   | ✓                   | ✓       | ✓         | ✓         | -        | ✓                      |
| Monitor Calibration  | ✓                   | ✓       | ✓         | ✓         | ✓        | ✓                      |
| Image Capture  | ✓                   | ✓       | ✓         | ✓         | -        | ✓                      |
| Colour Database  | ✓                   | ✓       | ✓         | -         | -        | ✓                      |
| Shade Search   | ✓                   | ✓       | ✓         | -         | -        | ✓                      |
| Spectrophotometer Connection   | ✓                   | ✓       | ✓         | -         | -        | ✓                      |
| Import/Export QTX  | ✓                   | ✓       | ✓         | -         | -        | ✓                      |
| Colour Measurement (LABCH, XYZ, Whiteness)                                   | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Colour QC  | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Selection Filter   | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Automated Measurement Workflow   | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Colour Sorting /Clustering   | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Colour Replacement & Simulation  | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Texture & QC Matrix  | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Gamut Checking   | ✓                   | ✓       | -         | -         | -        | ✓                      |
| Fastness Grading for Change of Shade & Staining                              | ✓                   | -       | ✓         | -         | -        | -                      |
| On/Off Tone Determination  | ✓                   | -       | ✓         | -         | -        | -                      |
| Autograding of multiple fastness tests                                       | ✓                   | -       | ✓         | -         | -        | -                      |
| Stain Removal Analysis   | ✓                   | -       | ✓         | -         | -        | -                      |
| Crocking Analysis  | ✓                   | -       | ✓         | -         | -        | -                      |
| Light Fastness Assessment with user defined test methods                     | ✓                   | -       | ✓         | -         | -        | -                      |
| Multiple Sample Analysis, with colour measurement, QC & statistical analysis | ✓                   | -       | ✓         | -         | -        | -                      |

✓ As standard   - Not available   o Option only

## SYSTEM SPECIFICATION

|                               |   |
|-------------------------------|---|
| Imaging Geometry              | Angled and Diffused   |
| Wavelength Range              | Normal - 0% to 100%. Fluorescent - Greater than 100% (with Database)  |
| Light Source                  | CIE D65 with LED Array (SpectraTUNE Calibration Technology).<br>Options include CWF, U35, TL84 (840). UV Only Option (Adjustable from 0% to 100%)   |
| Calibration                   | 240 Colour Patch DigiTizer Chart  |
| Supported Cameras             | Nikon Models D100, D70, D80, D90 and D7000  |
| Optimum Measuring Area        | DigiEye Enclosed Illumination Cube: A4 Size (210 x 297). Depth of focus up to 200mm<br>DigiEye Large Area Imaging (LAI) System: 1300cm x 1300cm<br><i>Subject to Camera Lens Specification and height location of camera on supplied stand.</i>   |
| Camera RGB Stability          | Repeatability of White Measurement= Better than 0.9% (RGB Units).<br><i>Testing based on 30 repeat measurements of Centre White Square of DigiTizer Chart (Nikon D90).</i>  |
| Illuminant Stability (D65)    | < 1.0% over 8 hour test   |
| Illuminant Chromaticity       | x y coordinates tolerance= $\pm 0.01$ Typical values 0.001 - 0.005  |
| Interior Paint Colour         | Munsell N5  |
| Switch Control Panel Language | English   |
| Colour Display Calibrator     | X-Rite ChromaSensor 5. USB Connected LCD Screen Colour Calibrator.<br>Accuracy: $\pm 0.006xy$ , $\pm 5\%$ Y 0.05 - 1000 cd/m <sup>2</sup> . Repeatability: $\pm 0.002xy$ , $\pm 2\%$ Y 0.05 - 1000 cd/m <sup>2</sup> .<br>Dynamic Range: 0.01 - 1000cd/m <sup>2</sup> . Dynamic Range: 0.025 - 1000 cd/m <sup>2</sup> (CRT Mode) (Standard Mode). |
| Input Interface               | Spectrophotometer & Imaging Camera. <i>Subject to driver availability.</i>  |
| Supported Operating Systems   | Windows XP, Windows 7 (32 and 64 bit)   |
| Database Storage              | Microsoft SQL Server 2008. Unlimited samples. <i>Subject to Hard Disk Space.</i>  |
| Software Languages            | English, Simplified & Traditional Chinese   |
| Software Options              | Full details on the previous pages  |

## SOFTWARE SPECIFICATION

|                             |   |
|-----------------------------|---|
| Colour Space                | CIELAB LCH, Hunter Lab, XYZ, CIECAM02   |
| Observer                    | 2° and 10°  |
| Colour Difference Equations | CIE L*a*b*, CMC, CIE94, DE2000  |
| Colour Input                | Camera Measurement, Spectrophotometer Measurement, Manual input of XYZ, LAB and Spectral Data (Reflectance)   |
| Colour Specification        | CIELAB Space, CIELUV Space, HunterLab Space, Munsell Space, Reflectance/Transmission Curves, Chromaticity, K/S, XYZ Values and Optical Density, CIE LCH |
| Indices and Metrics         | Opacity, ISO A11 Staining & Change of Shade, Reflectance, Pass/Fail, Brightness, Whiteness, CIE Tint, Yellowness  |
| Colour Difference Indices   | Pass/Fail, Colour Difference, Residual Colour Difference, Colour Strength, Tolerance  |
| Data Output Options         | Print & Export to CSV, QTX, TEXT (*.txt) & DAT (*.dat).   |
| Reflectance Generation      | Normal (as Standard option) and Custom  |
| Display Illuminants         | D65, A, F11, D50, F02, F07 (Simulated)  |

## ADDITIONAL INFORMATION

|                                  |  |
|----------------------------------|--|
| Calibrated Colour Printer Option | Custom Calibrated ICC Profile available (Optional Extra). Recommended Printer is Epson 2880  |
| Colour Display                   | Eizo ColorEdge CG246 W. 24.1" (61 cm) Hardware Calibration LCD Monitor.<br>Native Resolution 1920 x 1200 (16:10 aspect ratio). Display Size (H X V) 18.4 X 324 mm.<br>Pixel Pitch 0.270 x 0.270 mm. Display Colours (Display Port) 1.07 billion. |
| Software                         | Supplied on CD. Protected by USB Security Key Dongle.  |
| Warranty Information             | DigiEye Cube: 12 Months from date of purchase. Other items as per manufacturers guarantee.   |
| Certification                    |  CE Marked  |
| Country of Origin                |  The DigiEye System is designed and manufactured in Great Britain   |

## ANNUAL TECHNICAL SERVICE & SUPPORT CONTRACT

Annual cost billed in advance. Excluding travel and living costs which will be billed at completion of service.

|   | CODE   |          |
|---|--------|----------|
|   | DESEPA | DEANSUPP |
| Software Upgrades   | -      | ✓        |
| Telephone and Email Technical Support   | ✓      | ✓        |
| Annual on-site Calibration of System - system cleaning & maintenance, system lighting & camera performance check            | ✓      | ✓        |
| DigiEye Service Pack & on-site installation - replacement D65 lamps, DigiTizer calibration chart and White Uniformity Board | ✓      | ✓        |
| Certification   | ✓      | ✓        |

## PC - MINIMUM SPECIFICATION

|                            |  |
|----------------------------|--|
| Processor                  | Pentium 4 2.8GHz, 1024MB DDRII Ram - Intel Pentium Dual Core E5300 2.6GHz <i>(AMD processors are not permissible)</i>  |
| Supported Operating System | Windows XP Pro (Service Pack 3) or Windows 7 (32 Bit or 64 Bit)  |
| Memory                     | 2 GB RAM   |
| Hard Drive                 | 120 Gb HDD Minimum<br><i>For large storage of images and faster processing it is recommended to purchase larger capacity hard drive, faster processor and higher RAM</i> |
| Graphics Card              | 256 MB Minimum   |
| Ports                      | Minimum of 4 x USB ports, preferably USB2  |
| Accessories                | Microsoft Keyboard & Optical Mouse   |
| Internet Connection        | Highly recommended for remote technical support  |
| Video Interface            | DVI Output   |
| Optical Drive              | DVDRW (CVD & CD read and write)  |

## DOCUMENTATION

- User Manual and Quick Start Guide
- Switch Panel Log Book
- Switch Panel User Guide
- Insulation Test Results

## POWER REQUIREMENT

- 220/230v, 50/60 Hz, 100watts
  - 110v, 50/60 Hz, 100watts
  - Fuse 2.5 amp x 2
- Other power supplies available upon request

## DIMENSIONS

Sizes are approximate

|   | Metric (mm) |     |      | Imperial (inches) |     |    |
|---|-------------|-----|------|-------------------|-----|----|
|   | H           | W   | D    | H                 | W   | D  |
| Cube Only                                       | 690         | 730 | 710  | 27%               | 28% | 28 |
| Cube Only - Drawer Open                         | 690         | 730 | 1220 | 27%               | 28% | 48 |
| Cube including Camera and space for Power Cable | 865         | 730 | 760  | 34%               | 28% | 30 |

## WEIGHTS

Weights are approximate

|                        | Metric (kilos) |        | Imperial (lbs) |        |
|------------------------|----------------|--------|----------------|--------|
|                        | Unpacked       | Packed | Unpacked       | Packed |
| DigiEye Cube           | 63             | 90     | 140            | 199    |
| Camera and Accessories | -              | 15     | -              | 33     |
| Monitor                | -              | 15     | -              | 33     |
| Printer                | -              | 16     | -              | 35     |

VeriVide is committed to innovation in colour assessment and quality control. From constructing bespoke standardised viewing environments to developing new lighting products to meet industry standards, improving your quality and productivity is always our priority.



For further technical information visit: [www.verivide.com](http://www.verivide.com)



Scan the QR code on your mobile device to go directly to our website

Tel: +44 (0)116 284 7790  
Email: [sales@verivide.com](mailto:sales@verivide.com)

VeriVide Limited, Quartz Close, Warrens Business Park, Enderby, Leicester LE19 4SG UK