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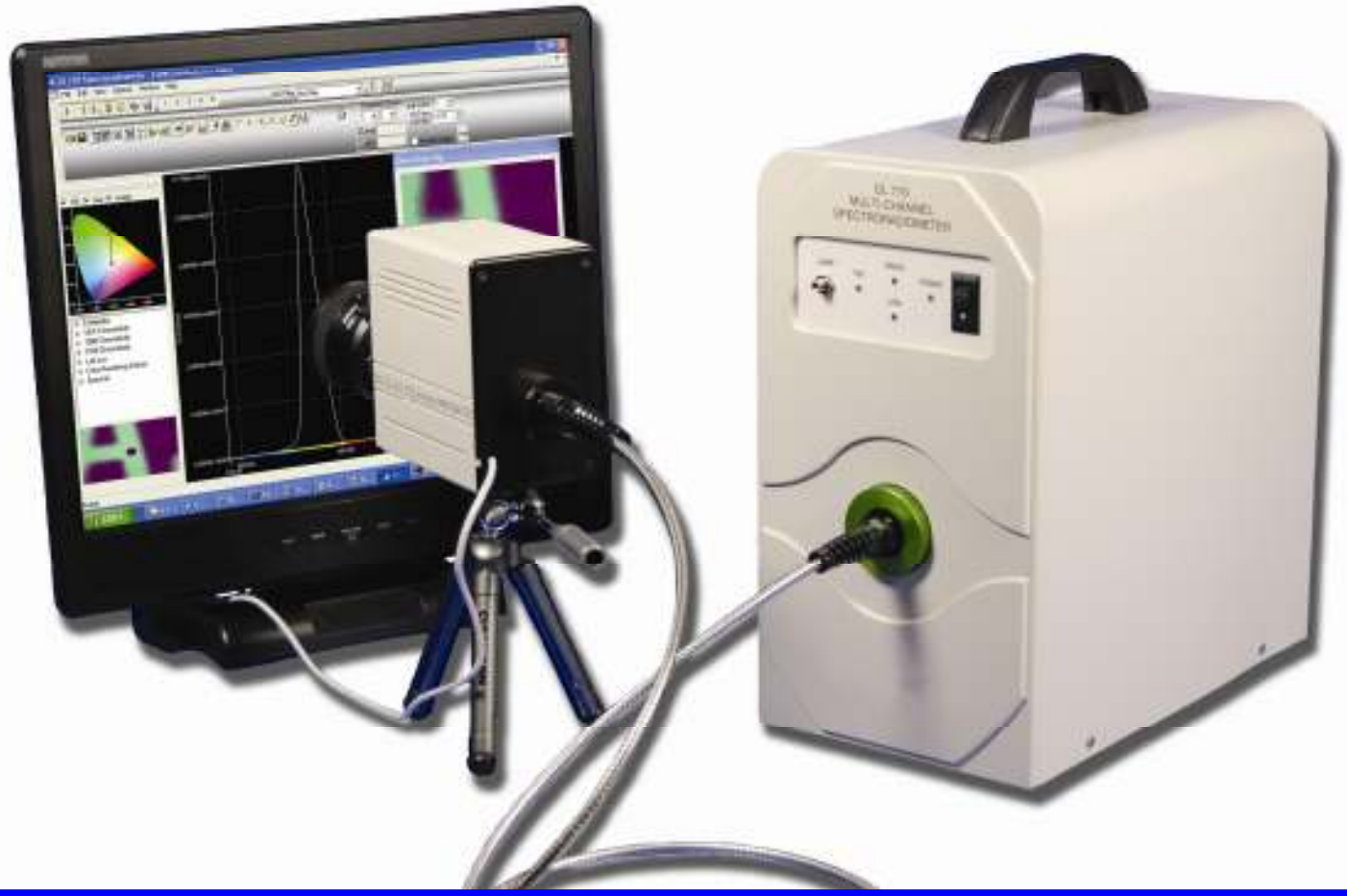
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Find the *Optronic Laboratories OL700VIS/NIR* at our website: *Click HERE*

Gooch & Housego



The Complete Display Measurement Solution: Gooch and Housego's OL 770-DMS

The OL 770-DMS offers a complete solution for modern display measurement requirements, giving accurate color, luminance and spectral information instantly at the click of a button. Developed to meet the needs of R&D, production, and quality assurance, the OL 770-DMS's unique design features high sensitivity and powerful, adaptable software make it ideal for performing measurements on ALL display types.

Features

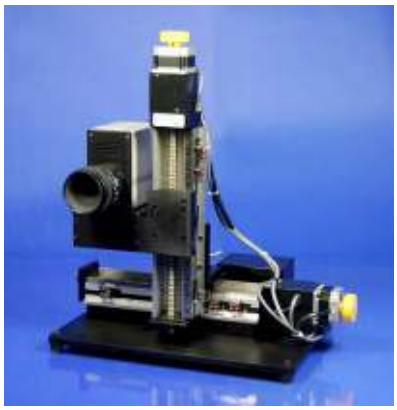


Gooch and Housego's OL 770-DMS Display Measurement System is the most versatile system available today for manufacturers developing new displays. Capable of performing all critical measurements, it provides a complete solution for modern display measurement requirements. Developed to meet the needs of R&D, production, and quality assurance, the system's unique design features, high sensitivity, and powerful, adaptable software make the OL 770-DMS ideal for performing measurements on a wide range of display types.

The OL 770-DMS can be configured for many types of measurements, including:

- Luminance
- Diffuse Reflection
- Chromaticity
- Gray Scale
- Specular Reflection
- Contrast Ratio
- Gamma
- Sunlight Readability
- Uniformity
- Viewing Angle
- Ambient Contrast Ratio

The OL 770-DMS is comprised of the OL 770 Multichannel Spectroradiometer, the OL 610 CCD Imaging Telescope, and intuitive Application Software. The state-of-the-art high-speed, multi-channel spectroradiometer is capable of performing display measurements rapidly and easily. Accurate measurement of color, luminance, and spectral radiance is obtained instantly at the click of a button.

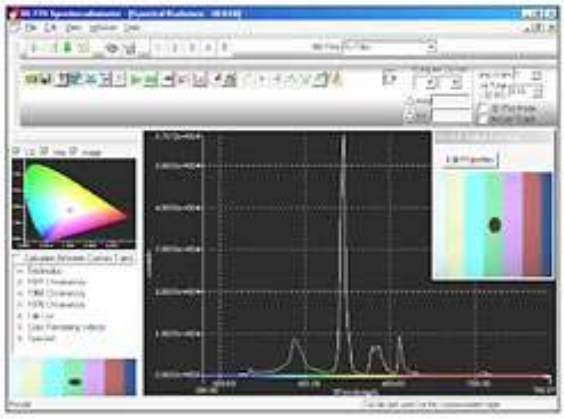


Outstanding sensitivity, which results in incomparable measurement times and accuracy, places the OL 770-DMS in a class all by itself. When operating in auto-exposure mode, the measurement time is optimized to increase the signal-to-noise ratio by selecting integration times based on the available light level. The system can be configured for display contrast measurements. Incorporating an innovative concept, the OL 610 couples a CCD camera with direct viewing optics for precise viewing of the measurement target area. The OL 610 allows for remote viewing in locations that might otherwise be inaccessible. The OL 610 CCD Imaging Telescope is available in 0.5° and 1° fields of view. Custom FOVs are available upon request. Polarization errors are insignificant compared to other measurement systems, resulting in accurate measurements of LCD and AMLCD displays, for example. A three axis positioning stage is also available, which enables the system operator to control the measurement area of the display from a remote location for a completely hands-off operation. The OL 770-DMS's modular concept supports other measurement requirements as needs arise by the simple addition of the appropriate accessory.

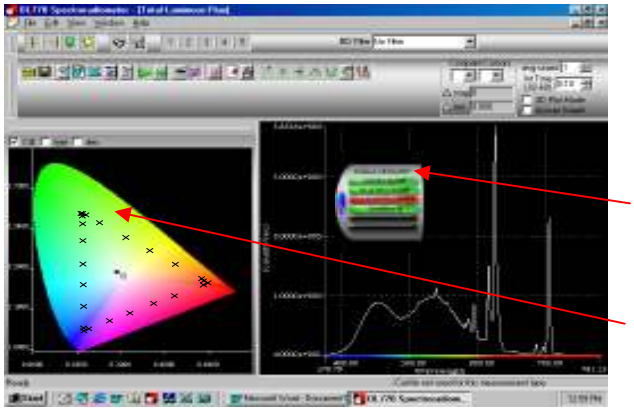
Gooch and Housego also manufactures diffuse and specular standards, illumination sources for characterizing display reflectance, and NIST-traceable calibration standards.

Software

- At the click of a button, the OL 770-DMS user interface presents accurate color, luminance and spectral information in instantly recognizable graphical and numeric formats.
- The software works with you, transferring the results or graphs to your own customized report or spreadsheet.
- The unique design ensures results are obtained in milliseconds, saving time and money.
- A clear image of the measurement spot area and surrounding environment is presented and may be stored with the data, if desired.



The user-friendly software allows the operator to easily implement customized templates to generate reports or spreadsheets. Real-time images of the measurement area that are obtained via an on-board CCD camera are displayed and can be printed or stored with each set of measurement data. Unlike other manufacturers, all Gooch and Housego measurement software includes calibration routines at no additional cost. Calibration routines included with the OL 770-DMS software are as simple to use as performing a measurement. An optional software development kit is available for custom programming and system integration.



Customizable Screen Layout:

Value Monitor indicates Pass/Fail of selected measurement parameters with visible and/or audible alarms

CIE Chromaticity Diagram indicating measurements over time

Software Features	*Advantages and Benefits*
Value Monitor	• Select up to (6) key parameters • Set pass/ fail limits with audio and visual alarms • Ideal for production testing • Quicker test times and more reliable results
Value Tree	• Includes all frequently used display measurements parameters • Immediately displays measurement results
MS Word™ Document Reports	• Automatically inserts results and graphs into user report templates
Export Data Directly into MS Excel™	• Spectral data and calculated values are easily available for analysis in MS Excel™ templates • Automatically store all test data into MS Excel™ document
System Response Calibration	• Maintains accuracy • User-created calibration files for each system configuration
Other Special Features	• System configurations stored with each data file • Hardware/ software triggering options • Raw CCD detector data available

Specifications

OL 770VIS-DMS and OL 770VIS/NIR-DMS Specifications	
Wavelength Range	VIS: 380 – 780 nm
	VIS/NIR: 380 – 1100 nm
Optical Bandwidth [1]	VIS: 3.0 nm standard (w/ 100 µm slit)
	VIS/NIR: 5.0 nm standard (w/ 100 µm slit)
Spectral Resolution	VIS: 0.4 nm
	VIS/NIR: 0.75 nm
Wavelength Accuracy	VIS: ± 0.5 nm
	VIS/NIR: ± 1.0 nm
Luminance Accuracy [2]	± 2%
Chromaticity Accuracy [3]	± 0.002 x,y
Chromaticitiy Repeatability	± 0.00015x, ± 0.0002 y
Polarization Error	< 1%
Stray Light (tungsten source)	$< 2.5E^{-4}$
Linearity Error	< 0.5%
Measurement Time	Auto or manual integration times from 0.02 to 60 seconds
A/D Resolution	16 bit
A/D Rate	250 KHz
Interface	USB, RS232 (OL 610 USB only)
Operating Humidity	0 – 90% non-condensing
Operating Temperature	0 – 30° C
Power Input	100/ 115/ 220/ 230 VAC, 50/ 60 Hz

Luminous Sensitivity Range and Measurement Spot Size

Imaging Telescope	Lens Model #	Aperture Size	Lens Focal Length/ Aperture		FOV	Minimum Working Distance	Spot Size @ Min. Focus	Luminance Sensitivity [4]	
								Min [5]	Max [6]
610-1.0	610-L-100	1 mm ϕ	50 mm f/1.8		1°	33 cm	6.0 mm ϕ 0.236" ϕ	0.001 fL 0.003 cd/m^2	350 fL 1200 cd/m^2
610-1.0	610-L-110	1 mm ϕ	60 mm f/2.8 macro		1	7 cm	1.0 mm ϕ 0.039" ϕ	0.001 fL 0.003 cd/m^2	350 fL 1200 cd/m^2
610-1.0	610-L-110/210 combo	1 mm ϕ	60 mm f/2.8 macro w/ close up lens kit	+ 1	1°	6 cm	0.95 mm ϕ 0.037" ϕ	0.001 fL [7] 0.003 cd/m^2	350 fL [7] 1200 cd/m^2
				+ 2	1°	5.7 cm	0.90 mm ϕ 0.035" ϕ	0.001 fL [7] 0.003 cd/m^2	350 fL [7] 1200 cd/m^2
				+ 4	1°	5.5 cm	0.75 mm ϕ 0.030" ϕ	0.001 fL [7] 0.003 cd/m^2	350 fL [7] 1200 cd/m^2
610-0.5	610-L-100	0.5 mm ϕ	50 mm f/1.8		½°	33 cm	3.0 mm ϕ 0.118" ϕ	0.004 fl 0.014 cd/m^2	1400 fL 4800 cd/m^2
610-0.5	610-L-110	0.5 mm ϕ	60 mm f/2.8 macro		½°	7 cm	0.5 mm ϕ 0.020" ϕ	0.004 fl 0.014 cd/m^2	1400 fL 4800 cd/m^2
610-0.5	610-L-110/210 combo	0.5 mm ϕ	60 mm f/2.8 macro w/ close up lens kit	+ 1	½°	6 cm	0.48 mm ϕ 0.019" ϕ	0.004 fl [7] 0.014 cd/m^2	1400 fL [7] 4800 cd/m^2
				+ 2	½°	5.7 cm	0.45 mm ϕ 0.018" ϕ	0.004 fl [7] 0.014 cd/m^2	1400 fL [7] 4800 cd/m^2
				+ 4	½°	5.5 cm	0.38 mm ϕ 0.015" ϕ	0.004 fl [7] 0.014 cd/m^2	1400 fL [7] 4800 cd/m^2

[1] *50 µm and 200 µm slits also available*
[2] *The luminance accuracy for an illuminant A incandescent source with a CCT of 2856K.*
[3] *The chromaticity accuracy for an illuminant A source.*
[4] *Sensitivity ranges when measuring an illuminant A source.*
[5] *Minimum value with an integration time of 10 seconds and 10:1 signal to noise ratio.*
[6] *The maximum luminance value can be increased by a factor of 30 when the lens aperture is closed to f/22.*
[7] *The minimum and maximum sensitivity values increase by ~ 10% when a close up lens is fitted to the macro lens.*

Contact: sales@goochandhousego.com www.goochandhousego.com

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