

MICROVISION

SS440 Large Area Display Measurement System

SYSTEM OVERVIEW:

The SS440 is a Display Measurement System designed specifically for large screen displays. This includes projection displays up to theater size, from any of the present projection engine technologies.

The system is designed using Microvision's 1M pixel CCD camera, integrated into a Theodolite viewing system. The system is positioned in polar coordinates up to $\pm 40^\circ$ at a 20 second of arc resolution. A digital readout provides the instantaneous "pointing" angle of both axes. Optionally, the Microvision diffraction grating spectrometer can be included for color measurements.

In operation, the system is imaged on the display and the coordinates of the frame size are recorded. A pattern generator or Microvision's MVREMOTE is used to automatically display the test patterns, or the image can be generated by the customer's system. The SS440 offers many automated features such as digital zoom, "Beam Find", and user defined test suites.



SYSTEM TESTS:

The typical tests required for large screen displays are included in this system. One advantage of this system is that the measurements are performed from the design viewing distance.

Typical tests that can be performed are as follows:

- MTF
- LINE WIDTH
- GEOMETRY
- CONVERGENCE
- BRIGHTNESS UNIFORMITY
- JITTER, SWIM, DRIFT
- REGULATION
- GAMMA/GRAY SCALE
- SPOT ANALYSIS
- FOCUS

With Spectrometer Option:

- LUMINANCE/COLOR ANALYSIS
- SPECTRAL PLOTS
- COLOR GAMUT
- UNIFORMITY
- CONTRAST

Contact Us:

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SS440 SPECIFICATIONS

High Resolution Digital CCD Camera

Image Sensor:	1392 x 1040 elements
Digital Video:	12 bit
Element Size:	6.45 μm , square pixels
Sync:	Synchronous Capture
Filters:	Photopic, 50%, 25%, 10%, & 1% ND
Standard Lens:	25mm C mount, f1.6 to f16
Field of View:	20 mm @ 1m working dist. Adjustable.
Digital Zoom:	up to 32X
Luminance Accuracy:	+/- 4% @ 2856K standard
Luminance Range:	0.05 to 10^6 cd/m^2 with ND filters
Measurement Time:	< 1 s for most measurements

Diffraction Grating Spectrometer

Spectral Range:	380 to 780nm (1000nm optional)
Luminance Range:	0.01 to 500K cd/m^2 **
Luminance Accuracy:	+/- 3% @ 2856K illuminant A
Repeatability:	RSD over 30 minutes < 0.5% 0.01 cd/m^2 sensitivity is specified at 3% RSD
Color Accuracy (x&y):	+/- 0.002 @ 2856K
Color Repeatability:	+/- 0.0005 @ 2856K
Thermal Regulation:	Computer controlled
Optics:	12mm collimated system
Acceptance Angle:	1.5° standard
Integration Time:	16.7 ms - 5000 ms (sync @ 60Hz)
Optical Resolution:	3.8 nm (slit width 100 μm)
Calibration:	NIST Traceable calibration
Operating Temperature:	5° - 30° C

** range includes use of Neutral Density Filters

MICROVISION

Dedicated to the Needs of the Display Industry

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