

# 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, "BeamFind", 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

### World-Wide Reps:

See [www.microvsn.com](http://www.microvsn.com) for a complete list of Sales Representatives throughout the world.

### SS440 SPECIFICATIONS

#### High Resolution Digital CCD Camera

Image Sensor:	1024 x 1024 elements
Digital Video:	12 bit USB
Element Size:	4.65 microns, square
Sync:	Synchronous Capture/External
Spectral Range:	Full Visible
Filters:	CIE Photopic, 50, 25, 10, & 1% ND
Standard Lens:	25mm "C" mount, f1.6 to f22 adjust.
Field of View:	11 mm Standard, adjustable.
Digital Zoom:	up to 32X
Luminance Accuracy:	+/- 4% @2856K standard
Luminance Range:	.05 to $10^6$ cd/m <sup>2</sup> with use of ND filters
Measurement Time:	< 1 s for most measurements

#### Diffraction Grating Spectrometer

Spectral Range:	380 to 780nm (1000nm)
Luminance Range:	0.01 to 500K cd/m <sup>2</sup> **
Luminance Accuracy:	+/-3% @ 2856K illuminant "A"
Repeatability:	RSD over 30 minutes < 0.5% 0.05-1.0 cd/m <sup>2</sup> sensitivity is specified at 5-10% RSD
Color Accuracy (x&y):	+/-0.002 @ 2856K
Color Repeatability:	+/- .0005 @ 2856K
Thermal Regulation:	Computer controlled
Optics:	12mm collimated system
Acceptance Angle:	1.5° standard
Resolution:	16 bit
Calibration:	NIST traceable certified for 12 months

\*\* range includes use of Neutral Density Filters

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Dedicated to the Needs of the Display Industry

11802 Kemper Rd., Auburn, CA 95603 USA \* Tel: (530) 888-8344 or (800) 931-3188

\* Fax: (530) 888-8349 Web site: <http://www.microvsn.com>