

PM-PTS™ Production Test Sequencer

RADIANT



Testing and Defect Inspection

- Brightness Uniformity
- Color Uniformity
- Sequential Contrast
- Checkerboard Contrast
- Image Quality
- Image Size and Location
- Convergence
- Gamma
- Greyscale
- Mura and Pixel Defect Inspection

The Production Test Sequencer (PTS) consists of a PM-1400 Series Imaging Colorimeter and PM-PTS™ software that performs all of the visual and quantitative tests necessary to qualify your displays in final QC/QA inspection. Tests are performed in a production floor darkroom environment with no need to develop a stand alone test lab.

The PM-PTS™ is:

- Fast: each selected test requires only seconds to perform
- Reliable: tests results are accurate and repeatable
- Flexible: can measure displays at any resolution and aspect ratio as well as multiple display technologies including Flat Panels, CRT, FED, LCD, DLP, LCoS and light engines for both front and rear projection systems
- Configurable: the number of tests and test sequences are user-selectable
- Durable: system can run continuously, completing tests on thousands of projectors with minimal maintenance
- Customizable: additional tests can be created and added to the test suite to meet customer specifications

The PM-PTS™ measures the illuminance/luminance, chromaticity, convergence, contrast, and image distortion of LCD, DLP or LCoS projectors. The system also detects mura defects and focus feedback to a zone correction algorithm in order to correct brightness and color uniformity problems and determine the pass/fail status of each projector in final inspection.

PM-1400 Imaging Color Measurement Systems the core measurement instrument of our Projection Test System. PM-1400 systems utilize a 14-bit, dual-stage, thermoelectrically cooled, scientific grade CCD. This allows for low noise and increased dynamic range measurements which are highly sensitivity, accurate, and repeatable for of today's high contrast projection systems. PM-1400 systems most commonly have a 1536x1024 pixel CCD for projector applications. This CCD resolution allows for high spatial resolution of the data for superior defect detection and image quality inspection.



Hardware

PM1423F-1 (USB 2.0) Imaging Colorimeter System
 Lambertian Projection Screen (Optional)
 Illuminance Calibration Light Source
 Portable Dark Room Tent (Optional)

Tests

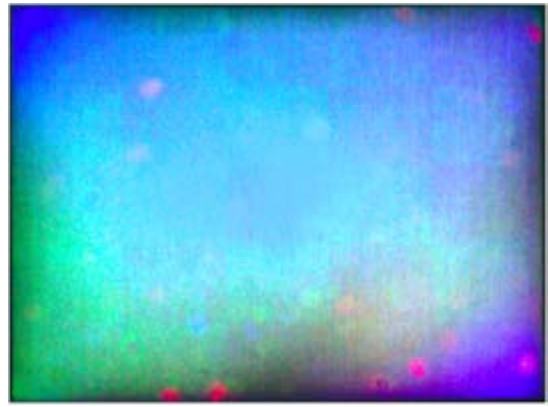
Illuminance / Luminance
 Illuminance / Luminance Uniformity
 Chromaticity Coordinates
 Color Uniformity
 Convergence
 Contrast (e.g. VESA, ANSI, ...)
 Image Quality
 Image Size and Location
 Image Distortion (pin-cushion, barrel, keystone, rotation)
 Pixel Defect Detection
 Blemish Defect Detection
 Gamma Curve

Advanced Capabilities

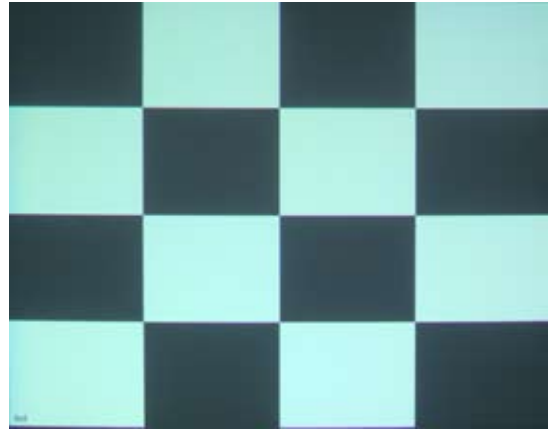
Auto Image Find: the software finds the center and edges of the projected image even if the device under test is rotated or poorly registered.
 Fully Automated: the PTS system controls the device under test and displays the necessary images to perform the selected tests.
 ActiveX Compatible: If desired, your own software can completely control the PTS program by using ActiveX commands. Sample programs are provided by Radiant, or Radiant can customize an application for you.

Typical Specifications*

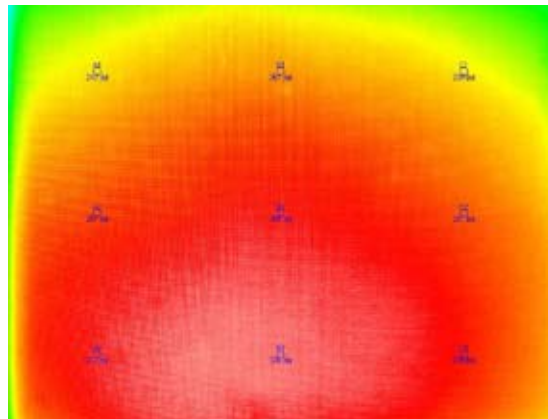
Luminance Accuracy: +/- 3% (rear projection)
 Illuminance Accuracy: +/- 3% (front projection)
 Chromaticity Coordinate Accuracy (x,y): +/- 0.003



Advanced Image Processing for Defect Detection



Checkerboard contrast



Illuminance/Luminance Uniformity

* Specifications subject to change without notice.

