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MPRT Measurement System

MPRT-2000

New!

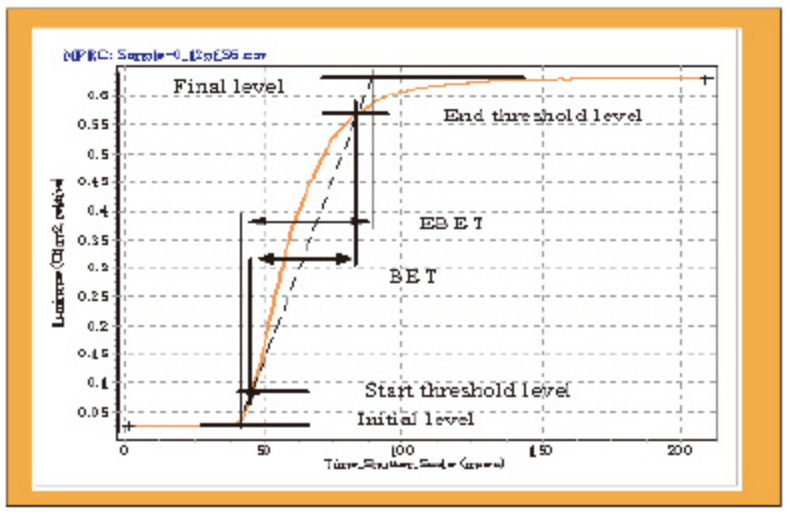
A pursuit CCD camera system for Motion Artifacts Measurement

Pursuit color CCD camera

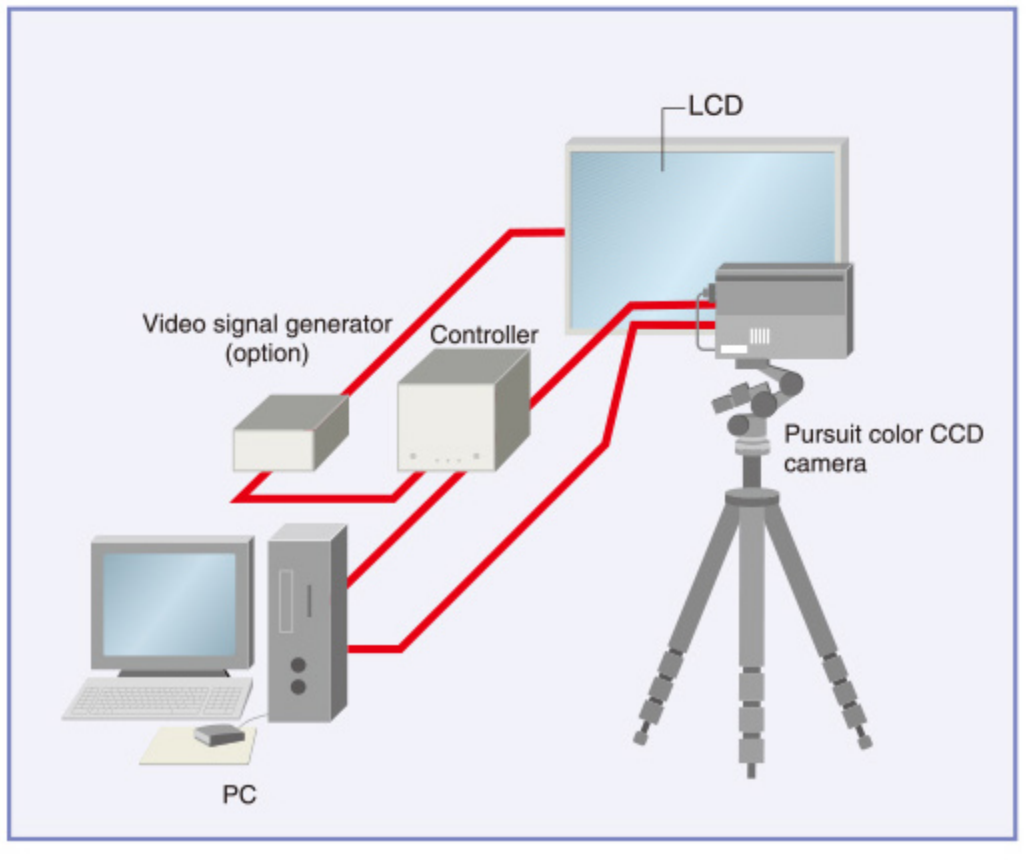
A color CCD camera enables the validation of motion artifacts, i.e., motion edge coloring, color break, etc.

MPRT measurement system can measure moving picture response time-courses by equipping a color CCD camera which can pursue a moving picture of flat panel displays automatically.

A color CCD camera as a detector provides a luminance transition curve and a moving picture response time course which is converted upon the concept of color difference.



System configuration

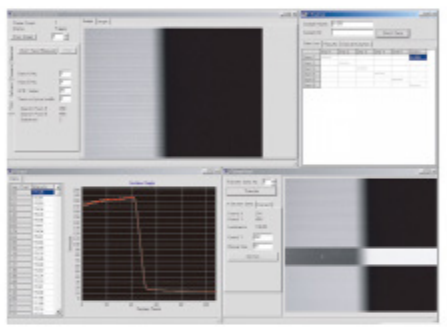


Features

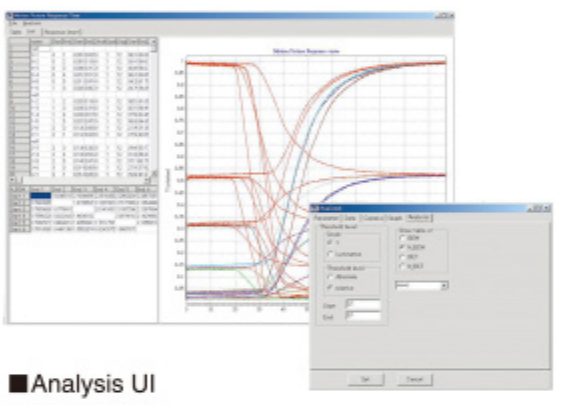
- Evaluation of motion artifacts based on VESA FPDM2 update
- Processes for measurements and analyses are computer-controlled including for moving picture displays on the sample FPD
- A special system for small displays is suitable for up to 2-inch size display
- Applicable for a wide variety of the scrolling speeds of moving picture
- Equipping a pursuit CCD camera enables the evaluation close to that by eye perception
- A unique algorithm as a time-based normalization permits the comparison among the different types of displays

- New techniques of MPRT-2000 -

- Adaptable to color display by equipping a color CCD camera
- Moving picture response characteristics for R, G, B elements
- Moving picture response evaluation with luminance and chromaticity transition curve
- Moving picture characteristic estimation for optional bitmap pictures



■Measurement UI



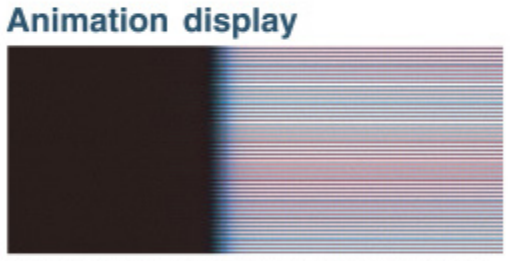
■Analysis UI

Example data

[Sample]
Sample : PDP-TV
(For high-definition television)
Size : 42inch
Resolution : 1024 x 768
Drive system : ADS method

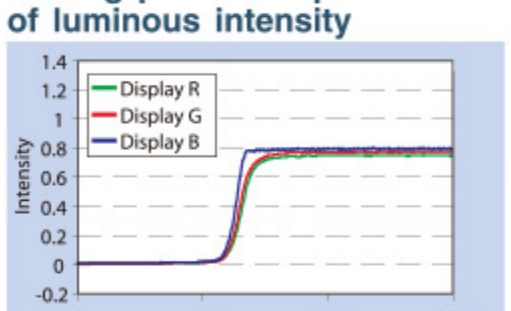
[Measurement condition]
Video signal : 720p
Scroll speed : 16pixel/frame
Display step : 0-255(Black white)

Animation display



It can be confirmed to cause the blot in the edge part.

Moving picture respons curve of luminous intensity



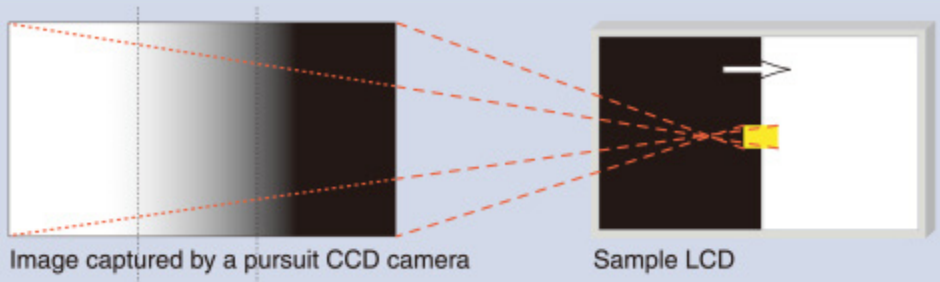
It can be confirmed that B color response time is earlier than other colors.

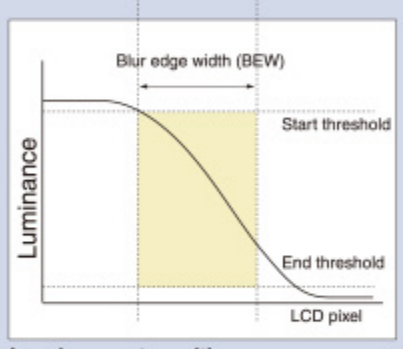
Moving picture respons curve of brightness and color degree

In the response curve of the color degree, the hollow that originates in blue caused in the edge part is seen.

Principle

Motion blur is perceptive at a condition of smooth pursuit eye tracking on a moving picture. This is captured by using a pursuit camera. The blur edge width is obtained from the cross sectional luminance profile. Blur edge time is the width after a conversion of horizontal scale to a time.





Luminance transition

Sample measurement snap shot.

A blurred edge image captured by using a pursuit CCD camera.

Specifications

MPRT measurement System:MPRT-2000	
Animation follow type color CCD camera	
Number of CCD elements	1280 × 960 pixel
Scroll speed	4 ～ 16 pixel/frame
Range of measurement strength	0.1 cd/m2 or more
Moving picture response curve noise	0.3 %
Accuracy of EBEW	Number ±5 of CCD elements Pixel or less
Accuracy of EBET	±5% or less
MPRT calculation reproducibility	1% or less (level 0-1 and 1-0 are excluded.)
Moving picture response curve	10 ビット
	・Moving picture response curve of display luminous intensity
	・Moving picture response curve of brightness and color degree
Main body and weight	285(W) × 90(D) × 165(H)mm, 4kg
Sample Display	
Display	The measurement side must be a plane.
Measurement distance	200 mm or more
Pitch size	180 ～ 1000 μm or more
Width	110 mm以上
Number of horizontal pixels	640 pixel or more
Controller(MP-100)	
Main body and weight	200(W) × 330(D) × 180(H)mm, 5kg
Other composition goods	
Signal generator(option)	VG-848 from Astrodesign inc. or compatible.
Data processing part	PC computer(PC/AT compatible), monitor, printer

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